Decision Making in Civil Disputes:

The Effect of Role and Frame

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Abstract

This thesis presents seven experiments that investigate the application of Kahneman and Tversky's prospect theory (1979) to litigation, paying particular attention to the role of framing. Litigation is treated as a form of crisis bargaining which varies significantly from negotiation undertaken in more normative circumstances (for example, managerial conflict and two-party price negotiations). The first two experiments made use of the scenario evaluation paradigm, used in previous studies by Rachlinski (1996), van Koppen (1990) and Korobkin and Guthrie (1994, 1998), in which they argued that framing is dependent on litigant role with plaintiffs adopting a positive or gain frame and defendants adopting a negative or loss frame. The aim of these experiments was to manipulate the reference points of both plaintiffs and defendants in order to determine whether it is possible to alter the frame adopted by each. The results revealed that it is possible for defendants and plaintiffs to be induced to adopt a positive frame and negative frame respectively. Furthermore, regardless of role, positively framed litigants were significantly more likely to settle than their negatively framed counterparts (an average increase of approximately 20 percent). This is a new finding in litigation research.

Studies 3 and 4 sought to determine whether the dissociation of role and frame is still evident in a more realistic experiment using simulated negotiations. This methodology has previously been used by Margaret Neale, Max

Bazerman and others in the field of organisational conflict, and by Linda Babcock and colleagues (1997) in considering bias in litigation. However, the studies presented here are the first to use simulated negotiations to investigate the effects of framing during litigation. In contrast to the scenario-based studies, Study 3 found no effect of either role or frame. Study 4 was conducted in order to determine if this was due to the requirement, to maintain comparability with the scenario-based experiments, that the parties ignore court costs and legal fees. However, despite including a schedule of fees, Study 4 also found no evidence of framing effects.

The aims of studies 5, 6 and 7 were to determine whether the failure to observe framing effects in studies 3 and 4 could be attributed to the implementation of costs and other changes or whether the direct manipulation of reference points simply does not transfer to more dynamic negotiation environments. While the results of these experiments did not reach a clear outcome on this question, it was possible to conclude that prospect theory's prediction of framing effects is not a major determinant of litigant behaviour.

Declaration

This work contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution to Victoria Gilliland and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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Chapter 1

Introduction

> *"In 1986, a civil jury in Philadelphia awarded Judith Richardson Haimes $986,000 in compensatory damages after she claimed she lost her psychic powers as a result of a CAT scan"* (Adams & Bourgeois, 2006, p. 1)

Civil litigation has become a costly and unavoidable part of modern life. Despite the prevalence of litigation, relatively little is known about how individuals evaluate their prospects, and decide whether to settle or go to trial. The following research presents seven experiments which consider this issue from the perspective of Kahneman and Tversky's prospect theory (1979).

This thesis is divided into six chapters. The first chapter reviews the relevant literature, starting with the history of decision making research, from the conception of risk and probability, through to the heuristics and biases proposed by Kahneman and Tversky. Chapter 2 provides a brief history of

psychological thought on the issue of decision making in legal contexts, and provides a theoretical basis for the subsequent experimental work. The third chapter outlines a preliminary investigation into the application of prospect theory to litigation. The two studies presented in this section were conducted online using the one-shot scenario evaluation methodology and demonstrate how role, frame and subjective probability can influence a litigant's propensity to settle. Chapter 4 presents two experiments which represent a first step towards investigating the role of prospect theory in real settlement negotiations. The fifth chapter begins with an investigation into the possible effects of legal costs, and presents three further studies using the scenario-evaluation paradigm. The final chapter contains a detailed discussion of the research presented, summarises the major findings and identifies the theoretical and practical issues yet to be resolved in this field. However, before considering the origins of decision making research, it is important to first get a working definition of litigation and the applied problem this thesis seeks to investigate.

1.1 Litigation: The Applied Problem

Litigation is a process of court sanctioned dispute resolution which takes place when one party (the plaintiff) brings a civil action against another party (the defendant). The plaintiff accuses the defendant of some form of wrongdoing that has injured them in some way, whether emotionally, physi-

cally or financially. The plaintiff is seeking compensation (usually monetary) from the defendant. The defendant cannot avoid the conflict once the allegation has been made, but they may choose to bring their own counter-suit against the plaintiff, depending on the circumstances leading to the claim.

Litigation generally involves a process of negotiation before parties proceed to trial (some jurisdictions explicitly require that this takes place). During these negotiations, both parties are obliged to exchange information and evidence through the process of discovery. These pre-trial processes are aimed at encouraging parties to settle out of court. This is due to the belief that early settlement is beneficial to all involved as it is generally quicker and cheaper than a trial (there are, however, those who disagree with this assumption, see for example Fiss, 1984).

1.1.1 Costs

Ever since the 'litigation explosion' of the 1980s (Galanter, 1987) the growing prevalence of litigation has been of great concern to the private sector, individuals and the community as a whole. Recent figures suggest that nearly 90 percent of US businesses are involved in litigation, with corporations engaged in an average of 37 lawsuits at any one time (Insurance Journal, 2007). Given this significant increase in prevalence, it is estimated that the cost of litigation has been steadily rising by approximately 12 percent per annum since 1980 (Luu, 1993). Detailed research into the cost of litigation is rare (Marks, 1999) and it is difficult to access current figures on total litigation

spending, and how this money is distributed.[1] Gathering such information is time consuming and expensive and issues of privacy and confidentiality make it difficult to access information from the private sector. For this reason, many of the more recent estimates come from private companies in the legal services industry who have access to the records of a large number of law firms.

According to Forrester Research (as reported by private firm Lexadigm, 2008), worldwide spending on litigation is approximately $250 billion (US) per year. The United States alone accounts for $170 billion of this. Another firm in the legal services industry, eLawForum, estimates the litigation spending of *Fortune 500* companies to be approximately $210 billion (US) per year (Henry, 2008). This equates to approximately one-third of *Fortune 500* profits. As Henry (2008) points out, by comparison, this figure dwarfs the salaries and bonuses given to CEOs, an issue which has recently received much criticism and media attention (approximately $7.5 billion annually).

In Australia, litigation spending is markedly lower than in the US. This could be because Australia is thought to have a less litigious culture (Hoadley, 1992, although some commentators disagree), and partly because Australia implements a largely 'loser pays' allocation of legal costs (also known as

[1] Concern over a lack of recent statistical information was highlighted by the Australian Law Reform Commission in 1995, and resulted in a recommendation to implement a co-ordinated data collection program across Australia. Currently, however, none of the recommendations from that report have been implemented.

the cost indemnity rule).[2] According to the Australian Bureau of Statistics, the legal services industry contributed approximately $11 billion to the Australian economy for the fiscal year 2007/08. The Australian Law Reform Commission (ALRC, 1995) estimates that 35 percent of the income generated by the legal services industry relates to litigation. This figure equates to approximately $3.85 billion, which has more than doubled since 1992/93. In terms of the public cost, in 1997/98 the Australian government spent $470 million financing the civil dispute resolution agencies (including courts, tribunals and other dispute resolution bodies) for the Federal jurisdiction (this does not include the government's own legal expenses). This figure is put into perspective when one considers that 96 percent of all cases are filed (and usually resolved) in State and Territory courts which are outside the Federal jurisdiction. Furthermore, in the same year, 300 000 disputes were resolved in the Federal jurisdiction. This means that for Federal courts alone, there was roughly one civil dispute lodged for every 63 people in Australia.

Recent information on the allocation of legal costs is also difficult to come by. One government review (Office of Regulation Review, 1995) suggests that only one in ten disputes end up in trial (however, this approximation traces back to a 1989 review by Cooter and Rubinfield). More recent estimates do not appear to be available in Australia, although Henry (2008) suggests that only three percent of *Fortune 500* cases go to trial. Generally it is

[2] An in-depth analysis of the implications of the differing cost allocation methods is beyond the scope of this thesis. However, for further information see Hughes & Snyder, 1995 and ALRC 75, esp 4.6-4.29 and appendix D.

suggested that total legal costs vary from 17-30 percent of the associated claim. According to one report, the biggest determinant of cost in a civil dispute is the stage at which it is resolved (Williams & Williams, 1994). The total costs for cases which go to trial in Australia are generally two to four times higher than those which settle beforehand (Williams & Williams, 1994).

The available data therefore suggest that while only a small proportion of litigants do not negotiate a settlement, these cases account for possibly the single greatest cost associated with the civil legal system. It is therefore these cases which are of most interest to researchers concerned with reducing the burden of litigation. The aim of the following literature review is to consider various models of decision making and how they may be applied to the practical problem of reducing the cost of litigation. In particular, this review will demonstrate why prospect theory was singled out for examination.

1.1.2 Crisis Bargaining

One of the greatest challenges for research into litigation is in properly defining the form of the negotiation. As will be shown, litigation is not a type of normative bargaining, as considered by the economic literature. Instead, there is a growing body of research which suggests that litigation represents a form of crisis bargaining. The term 'crisis bargaining' refers to a negotiation process that is structurally different from standard negotiations which occur under normative bargaining conditions (Donohue & Roberto, 1993). Nor-

mative bargaining conditions refer to circumstances where parties are motivated by the assumption of mutual benefit. That is, both parties negotiate in good faith, based on the belief that the process of negotiation and group problem-solving will yield a mutually satisfactory resolution to the dispute. As a result, parties act co-operatively, exchanging information, making proposals, conducting thoughtful discussion and focusing on the issues at hand (Donohue & Roberto, 1993).

Crisis negotiations, however, occur under very different conditions. Perhaps the simplest definition of crisis bargaining is that proposed by Donohue and Roberto (1993): "a negotiation aimed at coercing the other to comply with some course of action" (p. 181). It is possible to argue that this definition could be applied to any form of conflict – if each party was not trying to achieve their individual goals, there would be no dispute. Indeed, the basis of Nash economic game theory is that each party will seek to maximise their own gains (Nash, 1950). However, as will be discussed, the nature of a crisis situation often causes coercive behaviour to extend beyond rational self-interest to a point where it becomes detrimental to both parties.

Past research recognises three main types of crisis bargaining - hostage negotiation (Donohue, 1978; Donohue, Ramesh, Kaufmann, & Smith, 1991; Donohue & Roberto, 1993), international peace negotiations (Donohue & Roberto, 1993) and litigation (Welsh & Coleman, 2002). While there are other circumstances which could result in crisis, these three types of negotiations share three major characteristics which define a crisis situation -

exclusivity, risk of an uncontrolled outcome, and time constraints.

Exclusivity refers to a situation where the parties must deal with each other. In economic literature, standard models assume there is an infinite (or a 'sufficiently large') number of buyers and sellers. For example, Mary wants to buy a lawnmower and John wants to sell a lawnmower, but if they cannot agree on the terms of sale, they can both go elsewhere. Normative bargaining models assume that there are an infinite number of other buyers to whom John can sell his lawnmower, and that likewise, there are an infinite number of sellers from whom Mary can buy a lawnmower.

This is not always representative of true market conditions. For example, litigation can be viewed as a form of buying and selling, where the plaintiff is essentially 'selling' their right to a trial, and the defendant is 'buying' that right. Unlike the lawnmower situation, there are not an infinite number of defendants for the plaintiff (the seller) to sue. They may sue only the person who infringed their rights. Similarly, the defendant (the buyer) cannot choose to be sued by some other plaintiff. The parties can therefore deal only with each other.

Similarly, in the context of hostage negotiations, the police negotiator cannot choose to deal with another hostage taker, and neither can the hostage taker choose to deal with a group other than the police. The parties must deal with each other exclusively. This can have an impact upon the course of negotiations, and ultimately influences the consequences of an impasse.

The second characteristic of a crisis negotiation relates to the threat of

an uncontrolled and uncertain outcome which will occur if parties fail to reach an agreement. In the lawnmower example above, there is no negative outcome if Mary and John fail to agree on a price (that is, if negotiations result in impasse), Mary and John will simply go their separate ways and find other sellers and buyers, respectively. However, in a crisis situation, impasse will result in some form of risky, uncertain outcome which neither party can control or avoid. For example, if a plaintiff and defendant fail to negotiate a settlement, the dispute will be resolved by a court trial. While the facts of the case may be indicative of a particular outcome, neither party can be certain in whose favour the judge will rule, or how much compensation will be awarded. They also cannot reject the ruling once it has been delivered – they are both bound by it. Therefore both parties know that if they fail to settle, the dispute will go to court and there is some chance they will win, and some chance they will lose. It is for this reason that settlement negotiations are sometimes referred to as taking place 'in the shadow of the law' (Coursey & Stanley, 1988).

Hostage negotiation represents a similar situation. If the hostage taker and the police negotiator fail to resolve the crisis, a tactical response will ensure a resolution. However, in doing this, neither the police nor the hostage taker can be sure of victory. Both parties simply know that there is some chance of the hostage taker escaping and some chance of death or injury to the hostage taker, the hostages and/or the police. Thus it can be seen that in a crisis situation, impasse results in a risky, uncertain outcome, which neither

party can control or escape. This feature distinguishes crisis situations from normative bargaining conditions and may influence the negotiation process.

The third major characteristic of a crisis negotiation is some form of constraint upon the length of time for which parties may negotiate. For example, while litigation can often be a time consuming process, there are several stages in the negotiation process which create administrative deadlines. Similarly, with hostage situations, negotiation cannot continue indefinitely - eventually a tactical resolution will be sought, creating a deadline for both the hostage taker and the police negotiator. Therefore, depending on the exact circumstances of the conflict, time can play a greater or lesser role in the outcome of a crisis situation.

As demonstrated, hostage negotiation and litigation are structurally similar, and share three main characteristics. In addition to this, in each form of conflict, the hostage taker and the plaintiff can be viewed as analogous roles, as can the police negotiator and the defendant (Welsh & Coleman, 2002). For example, the plaintiff and the hostage taker, as protagonists, both drive the conflict. That is, if not for actions of the hostage taker, there would be no conflict. Further, if the hostage taker were to 'give up', there would no longer be any conflict. Similarly, in litigation it is the plaintiff, as the complainant, who brings the action. There will be no dispute unless the plaintiff chooses to pursue an action. The plaintiff can choose at any time to drop their claim, ending the conflict. In contrast, the police negotiator and the defendant are both antagonists. The conflict is being brought to them, and they have little

choice about whether or not to participate.

As a result of this, the hostage taker and the plaintiff (the protagonists) and the police negotiator and the defendant (the antagonists) will often share similar goals. The protagonists will aim to use whatever coercive or tactical options are available to them to achieve their desired outcome. The form of the 'desired outcome' varies between individuals, and can range from concrete outcomes, such as economic gain, to more abstract goals such as social and political statements. Conversely, the goal of the antagonists will be to resist these outcomes. Furthermore, individual antagonists will generally have the same motivation, which is best described as 'damage minimisation'. Desired outcomes will tend to be defined in more concrete terms, such as minimising financial loss or preventing injury or loss of life (Welsh & Coleman, 2002).

It can therefore be seen that litigation is best thought of as a type of crisis bargaining. One of the advantages of defining litigation in this way is that it provides a framework through which findings from litigation can be generalised to other forms of crisis bargaining and vice versa. Unfortunately, the crisis bargaining literature is not yet developed enough to provide predictions about the specific phenomena currently under examination. Therefore, the central focus of this thesis is to examine litigation and the specific challenges that it presents, and to consider how any findings may inform crisis bargaining research.

1.2 Decision Making

Litigation is primarily about making choices: whether to pursue a claim, how much to ask for, which lawyer to hire, which negotiation strategy to adopt. Central to this thesis is the choice to settle or to proceed to trial. This decision involves a consideration of risk: litigants can either accept a certain settlement or go to court where there is some probability of winning and some probability of losing. While this idea will be discussed in much greater detail in subsequent sections, the important point to note is that considerations of risk and therefore probability are inherent to legal decision making. Given this, an appropriate review must begin with the first conceptions of risk and probability.

1.2.1 Risk

Bernstein (1996) argues that human mastery of risk is what defines the modern era: "the ability to define what may happen in the future and to choose among alternatives lies at the heart of contemporary societies" (p. 2). He further posits that a theoretical understanding of risk requires two elements: firstly, a numerical system which allows for the conception and calculation of probabilities; and secondly, a belief that the future is determined by something other than nature and the gods. The first exists in the form of the Hindu-Arabic counting system which became popular in the West in the 13th century; however the second did not come until the European Renaissance

of the 15th and 16th centuries.

In 1494, a Franciscan monk proposed the following problem: "A and B are playing a fair game of *balla*.[3] They agree to continue until one has won six rounds. The game actually stops when A has won five and B three. How should the stakes be divided?" This problem became known as the 'problem of points' and considers how to fairly divide the stakes in an incomplete game. Mathematicians fiercely debated this problem for more than 150 years after its original inception.

In 1654, Blaise Pascal and Pierre de Fermat provided a solution for the problem of points which was to form the first complete theory of risk (Bernstein, 1996). Fermat sought a solution through algebra, while Pascal considered the geometric arrangement of binomial co-efficients, now known as Pascal's triangle. The collaboration produced expected value theory (although not called such at the time).

Pascal's triangle reveals the probability of an event occurring given the possible number of outcomes. For example, the second line of the triangle is 1 1, and the third is 1 2 1. If a couple wants to have one child, there are two possibilities – one chance of a boy and one chance of a girl. This is indicated by the second line of the triangle which shows there are two possible outcomes, both with an equal probability of occuring (1, 1). Therefore there is a 50-50 chance of the child being either sex. If a couple wants to have two

[3] *Balla* is a medieval game of chance between two players, where both players have the same chance of winning each round.

children, there are three possibilities (assuming order does not matter), as indicated by the third line – one chance of two boys, two chances of a boy and a girl, and one chance of two girls. Thus, the triangle predicts that there is a 50 percent chance the couple will have one boy and one girl, and only a 25 percent chance each of producing two boys or two girls. The expected value of a choice can therefore be calculated by multiplying the value of each possible outcome by the probability of its occurrence.

This theory of value calculation led Pascal to propose his famous wager: if God exists, the reward for being faithful is infinite, if God does not exist, being faithful loses you nothing. This became known as Pascal's wager, and may be considered a forerunner to the St Petersburg paradox which would later provide the impetus for Bernoulli's expected utility theory.

1.2.2 Expected Utility Theory

Expected utility theory was first proposed by Swiss mathematician Daniel Bernoulli in 1738, and is an adaptation of Pascal's model. Bernoulli's theory was presented as a solution to the St Petersburg Paradox (originally proposed in 1713), which, in the same manner as Pascal's wager, has an infinite expected value. Bernoulli's solution (which was not translated into English until 1954) introduced the principle now known as diminishing marginal utility, which has a concave subjective utility function that predicts risk aversion.

The basic premise of expected utility theory is that the value of money is relative to an individual's wealth. As Bernoulli put it, "a gain of 100

ducats is more significant to a pauper than a rich man," (1738/1954, p. 24) even though the absolute value is the same for both parties. Bernoulli therefore proposed a concave value function (as opposed to the linear function of expected value), so that the difference between $100 and $200 is more valuable (has a higher utility) than the difference between $1100 and $1200 (Kahneman & Tversky, 1984). In Bernoulli's own words: "the utility resulting from any small increase in wealth will be inversely proportionate to the quantity of goods previously possessed" (1738/1954, p. 25). This subjective utility function allows for risk averse decision making in risky choice problems. Risk aversion will be considered below in more detail, but is broadly defined as a preference for a certain outcome over a gamble of equal or greater value. For example, consider the following gamble: a 50 percent chance of winning $20,000 (or nothing), or a sure gain of $10,000. Here, the two prospects have the same expected value ($10,000). However, given a concave utility function, a gain of $10,000 may be more than 50 percent of the subjective value of $20,000. In this case, a risk averse choice (a certain $10,000) would be considered reasonable.

Bernoulli's expected utility theory introduces the concept of a risk taker for the first time - an individual who is able to choose whether or not to take a gamble and how much to risk in doing so (Bernstein, 1996). This was the first step towards creating not just a mathematical theory of risk, but a behavioural theory which can define individual motivations.

Bernoulli's theory also implicitly defined the concept of a 'rational' de-

cision maker. The concept of rationality is an integral part of the history of risk, and its etymology should be properly explained. Rationality has its origins in the Enlightenment and largely grew out of a philosophy known as 'political economy', or economics. However, it is important to note that the history of risk and the rise of economic theory are in no way distinct. In fact, it is the ability to calculate risk and probability which led to the creation of the insurance industry, which ultimately provided the funding for the Industrial Revolution. As Bernstein points out, "insurance is a business that is totally dependent on the process of sampling, averages, independence of observations and the notion of normal" (Bernstein, 1996, p. 88). Thus, economics is a discipline whose origins can be found in the conception of risk calculation.

1.2.3 Rationality

Traditional economic theories (including those of Pascal and Fermat, and Bernoulli) rely on the assumption that decisions are made by the 'economic man', a concept which makes assumptions about both the decision maker and the decision environment (Simon, 1955). The term 'economic man' was coined by John Kells Ingram in 1888, while the Latin incarnation *homo economicus* was first used by Vilfredo Pareto in 1906 (Persky, 1995). The principle to which the term refers has its origins in Adam Smith's *'The Wealth of Nations'*. Smith is considered to be the world's first 'truly academic economist' (Mills, 2003) and in his most famous essay he points out:

"it is not from the benevolence of the butcher, the brewer or the baker that we expect our dinner, but from their regard to their own interest" (Smith, 1776). This principle was later expanded upon by philosopher John Stuart Mill: "[Economics] does not treat of the whole of man's nature as modified by the social state, nor of the whole conduct of man in society. It is concerned with him solely as a being who desires to possess wealth, and who is capable of judging the comparative efficacy of means for obtaining that end" (cited in Persky, 1995, p. 223). Thus, for Smith and Mill, 'economic man' referred simply to one who acts out of self-interest. However, 'economic man' became more sophisticated in the century following Mill's pronouncement.

The defining characteristic of economic man is rationality. Daston (1988) points out that the idea of rationality has evolved over time, and can mean different things in different contexts. For Smith, rationality simply meant preferring more to less - an idea which is apparent in the above quote from *The Wealth of Nations*. This idea retains the basic assumption of rationality: that a decision maker always acts to maximise outcomes (utility). Decisions which do not seek to maximise something (it need not be money) are deemed irrational (Edwards, 1954). A second element is implied by this assumption: the transitivity of ordinal preferences (Arrow, 1986). That is, when choosing between possible outcomes, if A is preferred to B, and B is preferred to C, then A must be preferred to C. Indifference towards outcomes is acceptable, but must also be transitive (Edwards, 1954). That is, if an individual is indifferent to A and B, and indifferent to B and C, then they must also be

indifferent towards A and C.

The concept of transitivity suggests two further principles which are required by all analyses of rational choice: dominance and invariance (Kahneman & Tversky, 1984). Dominance means that if A is at least as good as B in every way, and better than B in at least one way, then A should be preferred over B. The principle of dominance therefore describes how outcomes should be ordered. The second principle (which is of key importance to this thesis) is that of invariance. This states that an individual's preference for an outcome should not be influenced by the way it is described. For example, describing a glass of water as either half full or half empty still refers to the same volume of liquid. Therefore, the description chosen should not influence an individual's preference for the water. The extent to which this assumption holds is a central issue in this thesis and will be examined in more detail below.

Another important characteristic of classical rationality is the assumption of perfect (or complete) information. This assumption has implications for both the environment in which decisions are made, as well as the cognitive abilities of the decision maker. The requirement of omniscience assumes that information about the possible states of the world is available and that it is known to the decision maker. Furthermore, there is an implication that individuals will be able to perform the calculations required by expected utility theory and then use this information to guide their decision processes. The definition of rationality has received much criticism from psychologists,

as discussed below. However, expected utility and the presumption of rationality is one of the more enduring decision theories and is still used by psychologists and economists as a normative standard of human behaviour.

Risk and Uncertainty

In 1921, Frank Knight published his doctoral thesis entitled "Risk, Uncertainty and Profit". According to Bernstein (1996), this was the first published work to consider decision making under uncertainty. Knight (1921) distinguishes between two types of chance: risk and uncertainty. Decision making under risk refers to a situation where the probability of a particular outcome occurring is known[4]. For example, a litigant may be advised that their probability of being awarded x dollars in court is fifty percent. Choosing to accept a settlement offer for a certain (but lesser) amount, rather than going to trial, is therefore a risky choice. Uncertainty refers to situations where the related outcome probabilities are not known. For example, when a litigant chooses to go to trial they know that there is some chance of winning, and some chance of losing, but it is impossible to predict the exact probability of either outcome. The decision is therefore 'uncertain'.

From these definitions, which are now well integrated into economic and psychological literature, it is not difficult to see that many decisions (particu-

[4]Runde (1998) argues that Knight actually defined two categories of risk, making three categories of chance in total. In doing so, Knight distinguished between situations where there was a definite mathematical probability associated with an outcome (such as rolling dice or tossing a coin), and situations where the assigned probability is based on prior observation. However, since this thesis deals primarily with decisions made under uncertainty, the traditional interpretation of Knightian theory will suffice.

larly those made in a legal context) are made under conditions of uncertainty. These conditions are not adequately accounted for by theories based upon rationality, such as expected utility and game theory. Rationality's reliance upon perfect knowledge forms the basis of the critique by Knight and others of classical economics. In particular, the requirement of perfect knowledge is problematic on a practical level. The remainder of this section will be devoted to a discussion of the shortcomings of the assumptions of rationality, and the main body of research which has replaced it - bounded rationality, and the development of cognitive research on heuristics and biases.

The Assumption of Rationality

The issue of rationality is what caused a split between economists and psychologists in their approach to modelling human decision making (Goldstein & Hogarth, 1997). Economists have largely accepted expected utility theory (although it can take many forms) and use such models to determine optimal (normative) decision making strategies. That is, these models are used to determine how people should make decisions, not how they actually do. The latter approach refers to descriptive models of decision making, and these are traditionally contained within the field of psychology.

Psychologists' objections to expected utility models of rationality come in three forms. Firstly, there were the thought experiments which yielded paradoxes as troubling for expected utility as the St Petersburg problem was for Pascal's expected value theory. The most famous of these is the Allais

paradox, proposed by Maurice Allais in 1953. In his paradox, Allais demonstrates how individuals tend to overweight certain events, and underweight outcomes which are merely probable. Kahneman and Tversky (1979) refer to this as the certainty effect, and it violates the transitivity assumption of rationality. The paradox is as follows:

Gamble 1

Choice A: 100% chance of $1 million

Choice B: 89% chance of $1million, 1% chance of nothing, 10% chance of $5 million

Gamble 2

Choice A: 89% chance of nothing, 11% chance of $1 million

Choice B: 90% chance of nothing, 10% chance of $5 million

Allais postulated that most people will prefer choice A in the first gamble and choice B in the second (this was later empirically verified by Kahneman & Tversky, 1979). According to the assumptions of expected utility theory, this violates the substitution axiom (proposed by Savage, 1954). That is, if B is preferred to A, then any probability of B should be preferred to the same probability of A (Kahneman & Tversky, 1979). Eliminating the common consequence of both outcomes in each gamble (an 89% chance of $1 million in gamble 1 and an 89% chance of nothing in gamble 2) reveals that gamble 1 and 2 are the same choice:

Choice A: 11% chance of $1 million

Choice B: 1% nothing, 10% chance of $5 million

Thus, individuals who choose A in one gamble and B in the other are behaving irrationally according to expected utility theory.

The second form of opposition to expected utility came from Herbert Simon's (1957) conception of 'bounded rationality'. Although not necessarily new in itself, Simon's work generated interest in an entirely new direction of decision making research. Simon (1956) argued that there are two factors which prevent individuals from acting in a purely rational way. Firstly, the structure of the environment does not allow for perfect information as required by expected utility and game theory models. This was not a completely novel idea - as discussed, Knight (1921) had distinguished between risk (where probabilities are known) and uncertainty (where probabilities cannot be known). The second part of Simon's argument was that humans do not possess the computational abilities which are required to achieve perfect rationality. Simon was also not the first to criticise expected utility on this basis. The contribution of Simon's thesis, however, was in combining the two concepts to create a new theory of decision making. Simon used his now famous 'scissors' metaphor to describe how both of these two factors - the limited capacity of human cognition and the structure of the environment in which decisions are made - must be considered in order to formulate a descriptive model of decision making. Studying one blade is not enough -

both are required to cut. Furthermore, Simon believed that while individuals may not be strictly rational, they are not completely irrational either. Hence he coined the term 'bounded rationality' (Simon, 1957) to convey the idea of a decision maker who attempts to behave in a reasonable manner, given certain cognitive and environmental constraints.

Simon also suggested some possible models which may account for behaviour. His idea was that there are underlying structures, or patterns, in the environment that individuals could use as short cuts, or rules of thumb, when making decisions (Simon, 1956). While the specific models that Simon proposed have not been supported by empirical experimentation, his work sparked interest in the new field of heuristics and biases (discussed below). This field has been a dominant force in cognitive psychology for the latter half of the 20th century and has enjoyed some success in explaining and predicting human behaviour.

The third criticism against expected utility, and ultimately the most compelling, came in the form of experimentation. During the 1950s and 1960s, psychologists conducted a series of experiments which asked participants to choose between simple gambles. These experiments (some of which will be discussed in more detail in the next section) all shared the same key finding: time and again, individuals made choices which violated the principles of rationality (for a review of this literature see Slovic, Fischhoff, & Lichtenstein, 1977). Thus, there is overwhelming evidence that individuals frequently violate the principles of rationality when making decisions under both risk and

uncertainty. These experiments ensured that expected utility was relegated to the realms of normative decision making, rather than descriptive.

1.2.4 Heuristics and Biases

Simon's work led to the field of heuristics and biases. Heuristics refer to the mental shortcuts, or rules of thumb that individuals use when making decisions. These heuristics are generally helpful, however under certain conditions they can lead to systematic errors of judgment, or biases. Some of the most well-designed and illuminating investigations into heuristics (and biases) were performed by psychologists Daniel Kahneman and Amos Tversky. Their collaboration began in the mid 1960s, when Kahneman related his experiences training flight instructors on the basic psychological principles of learning. Kahneman explained to the instructors that reward is more effective than punishment in training (a finding which had been demonstrated by numerous studies on rats and pigeons). One of the instructors contradicted Kahneman, pointing out that in his experience, a pilot who was criticised for poor performance almost always improved on the next flight, while the subsequent performance of a pilot who received praise almost always worsened. Kahneman and Tversky postulated that this belief reflected an inability to perceive a natural regression to the mean. That is, if a pilot performs exceptionally well on one flight, his next performance is likely to be closer to his average performance, and vice versa for a poor performance, regardless of any reward or punishment received. Kahneman and Tversky postulated that

if individuals were unable to perceive that particular effect – an assertion they later verified empirically (see Kahneman & Tversky, 1973) – there may be others which are also ignored, thus causing systematic errors in judgment.

1.2.5 Prospect Theory

In addition to heuristics and biases, Kahneman and Tversky proposed prospect theory as a way of explaining the systematic errors of judgment which can occur in decisions made under conditions of uncertainty. Prospect theory explains the failure of invariance as a result of the evaluation of prospects (outcomes) in terms of gains and losses. Through a series of experiments, Kahneman and Tversky (1979) were able to show how the decision making process is affected by the way a potential outcome is described, or 'framed'. They demonstrated how varying the frame could induce decision makers to change their preference for a given outcome, thereby violating the assumption of invariance. More specifically, these experiments illustrated how individuals commonly evaluate prospects in terms of gains and losses from a given reference point. Describing outcomes in terms of potential gains is called a positive frame, while a description which emphasises potential losses is referred to as a negative frame. Thus, prospect theory defines two phases to the decision making process: editing, which includes the framing of prospects based on a given reference point; and evaluation, which is the mechanism through which framing affects the decision making process and alters risk preferences.

Framing and Reference Points

According to prospect theory, individuals evaluate outcomes in terms of gains and losses from a given reference point, rather than in terms of final states of wealth (Kahneman & Tversky, 1979). A reference point serves as a zero point on the value scale for assessing outcomes, and moving this point can alter whether an outcome is viewed as a gain or a loss. Prospect theory therefore utilises a relative value scale, where x dollars can equal zero value, rather than the absolute scale used in expected utility theory (zero dollars equals zero value). Reference points can be implicitly or explicitly stated, and they are commonly (often naïvely) employed in every day speech. For example, the classic conundrum as to whether the glass is half full or half empty is based upon reference point manipulation. The former position sets the reference point at an empty glass and therefore describes a gain; the latter contemplates a full glass and therefore describes a loss. Regardless of the description, however, the glass contains the same volume. Another demonstration of framing is provided by credit card lobbyists in the United States during the 1970s. The lobbyists insisted before Congress that any difference between the cash and credit card price should be referred to as a 'cash discount', rather than a 'credit surcharge' (Thaler, 1980). This suggests that the lobbyists intuitively believed that consumers would be more likely to forgo a gain (a cash discount) than to accept a loss (credit card surcharge), even though the absolute value is the same.

Despite being an integral part of reference-dependent models such as

prospect theory, the actual process of reference point adoption has been relatively understudied (Koszegi & Rabin, 2006). Kahneman and Tversky (1979) originally proposed that decision makers usually adopt the status quo as their reference point, but that this can be affected by either the formulation of the problem (as in the examples of framing discussed above), or by the expectations of the decision maker themselves. For example, an individual who is expecting to receive a $20 payment may view a $10 payment as a loss, even though the amount still represents a gain from the status quo. However, Kahneman and Tversky do not suggest any way of predicting which reference point an individual will adopt. This led Butler (2007) to observe: "there is no theory of reference points.... prospect theory assumes that individuals simply have a relevant reference point"(p. 229).

Koszegi and Rabin (2006) attempted to overcome this shortcoming by proposing a similar but more instructive theory of reference point adoption which posits that reference points are "fully determined by the expectations a person held in the recent past" (p. 1141). As Koszegi and Rabin point out, an individual who expects to undergo a painful and expensive dental procedure may feel they have gained something if they learn it is no longer necessary. The expectation model explains how this situation is contextually distinct from someone who never anticipated the procedure in the first place (even though their status quo is the same). The issue of reference point adoption will be re-visited later when the process of litigation is examined in more detail.

Risk Preferences

During the 'evaluation' phase, framing affects decision making under uncertainty by manipulating risk preferences. Individuals often experience risk-aversion when facing potential gains, or positive frames. That is, individuals will show a "preference for a sure outcome over a gamble that has higher or equal expectation" (Kahneman & Tversky, 1983, p. 2). Conversely, individuals facing losses, or negative frames, will be more risk-seeking. Risk-seeking behaviour is defined as the "rejection of a sure thing in favour of a gamble of lower or equal expectation" (Kahneman & Tversky, 1983, p. 2). This concept is illustrated in Figure 1, which shows the subjective value function in terms of gains and losses, as proposed by Kahneman and Tversky (1983). The shape of this function demonstrates that framing alters risk preferences. As can be seen, the value function in the domain of gains is concave, generating risk aversion. In contrast, the convexity of the value function in the domain of losses leads to risk-seeking behaviour. The shape of the value function causes an asymmetry between positive and negative frames - the function is steeper for losses than for gains. That is, the loss of x dollars is more aversive than a gain of x dollars is attractive.

Figure 1: Subjective value function, as adapted from Kahneman & Tversky (1983).

Perhaps the most striking demonstration of risk preference reversal caused by framing is the 'Asian disease' problem, originally proposed by Tversky and Kahneman (1981):

> Imagine that the US is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows:
>
> If Program A is adopted, 200 people will be saved.
>
> If Program B is adopted, there is a 1/3 probability that 600 people will be saved, and a 2/3 probability that no people will be saved.
>
> Which of the two programs would you favour?

This articulation of the outcomes involves an implicit frame. Describing the options in terms of 'lives saved' creates a positive frame and causes individuals to choose from amongst gains. Prospect theory therefore predicts that individuals should prefer the risk averse outcome. When giving this problem to undergraduate students, Tversky and Kahneman (1981) found that 72 percent preferred Program A. Since both programs have equal expected value, Program A represents the risk averse choice as it contains a certain outcome. Tversky and Kahneman then re-framed the problem as follows and asked a second group of students to choose a program:

> If Program C is adopted, 400 people will die.
>
> If Program D is adopted, there is a 1/3 probability that nobody will die, and a 2/3 probability that 600 will die.

This version of the problem creates a negative frame by describing the outcomes in terms of 'people dying'. Respondents are therefore choosing amongst losses and were expected to exhibit a preference for risky outcomes. This prediction was supported by the results, with only 22 percent of students now choosing the risk averse option (Program C), compared to 78 percent who preferred the risk seeking option presented in Program D. As the only difference between the two versions of the problem is the description, the almost complete reversal of risk preferences is due to framing. Kahneman and Tversky (1983) describe this effect as being both pervasive and robust.

Decision Weights and Cumulative Prospect Theory

Another feature of prospect theory is the s-shaped probability weighting function, depicted in Figure 2. According to prospect theory, the value of an outcome should be multiplied by the weighted probability of its occurrence. This is referred to as the decision weight and is a non-linear function of actual probability. The s-shape function allows for the over-weighting of low probability events and the under-weighting of high probability events, a phenomenon first observed by Allais in 1953, as mentioned previously. There are two forms of prospect theory: the original (first proposed in 1979) and a later modification called cumulative prospect theory (Tversky & Kahneman, 1992). The difference between the two relates to how the decision weights are used.

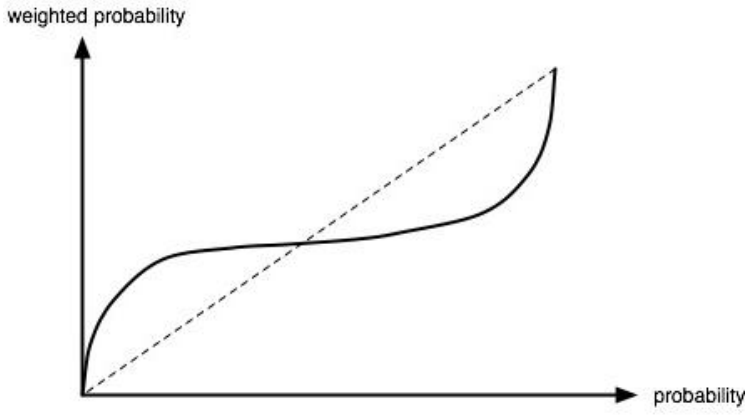

Figure 2: The s-shaped weighted decision function from Tversky & Kahneman (1992).

In the original conception of prospect theory, the decision weights are treated individually for each possible outcome. This means that all high and low probability events are under and over-weighted, respectively. Cumulative prospect theory, however, relies on a rank-dependent function which uses cumulative decision weights. This means that only low (high) probability events which are at the extreme ends of the outcome range are over (under) weighted. For example, imagine a lottery with a continuous range of outcomes from \$0 to \$100. The probability of winning a single amount, say \$37, is relatively low compared to the probability of winning an amount either greater or less than \$37. Therefore, according to prospect theory, the probability of winning \$37 is overweighted (and in this case more aversive) relative to the possibility of winning less than \$37. This is intuitively unappealing as it leads to violations of stochastic dominance, and is not supported by empirical data (Tversky & Kahneman, 1992). However, using a cumulative decision function means that only the extreme outcomes – \$0 or \$100 in this case – are overweighted, and the mid-range 'average' outcomes are underweighted. Cumulative prospect theory therefore gives rise to what has become known as the fourfold pattern of risk preferences: for high probability outcomes, risk aversion for gains and risk seeking for losses; for low probability outcomes, risk seeking for gains and risk aversion for losses (Tversky & Kahneman, 1992).

However, as will become evident, the distinction between prospect theory and cumulative prospect theory is not important to this thesis. The experi-

mental work presented in chapters 3 and 4 deals with fixed binary outcomes (ie. winning or losing in court rather than a continuous range of outcomes) which have mid-range probabilities (40-60 percent). In this circumstance, prospect theory and cumulative prospect theory make the same predictions. Therefore, for the sake of simplicity, only the original form of prospect theory is considered for the remainder of this thesis.

Applications of Prospect Theory

As has been shown, prospect theory provides a descriptive explanation of human decision making as it acknowledges the cognitive biases which allow framing variables to manipulate risk preferences under uncertainty. Prospect theory has been successfully applied to many different types of decision making. In particular, the medical profession has benefitted from the use of framing to increase the effectiveness of health messages. Researchers have argued that detection behaviours, which pose the risk of indicating disease, create negative frames and cause risk seeking behaviour (Rothman & Salovey, 1997). Preventative behaviours, however, are the risk averse option as they pose no threat to an individual's current beliefs about their health. For example, Latimer et al. (2008) conducted an experiment which showed that health messages involving information about only the benefits of physical activity (a gain frame) were more effective than those conveying the costs of inactivity (a loss frame), or even both (mixed frame). These results are consistent with findings relating to activities such as HIV testing, breast cancer

screening, sunscreen use and smoking (Latimer et al., 2008). This suggests that health messages should emphasise the preventative value of the targeted behaviour in order to improve their impact and likelihood of adoption.

Prospect theory has also been used to explain consumer behaviour relating to the purchase of insurance. The insurance industry offers a natural test-bed for prospect theory since, as mentioned earlier, insurance is inherently related to probability and risk calculation. Johnson, Hershey, Meszaros, and Kunreuther (2000) conducted an experiment into consumer preferences for different types of insurance policies. Participants were presented with one of two hypothetical insurance policies and asked to state whether or not they would purchase the policy. The two policies ultimately cost the same amount and offered the same coverage. The first policy cost $1,000 per annum and charged a $600 excess fee, totalled across all claims for the year. The second policy cost $1,600 and charged no excess, but instead provided a $600 rebate per year, minus any claims made. That is, if no claims were made, the rebate was $600; if there were claims totalling more than $600, no rebate was received. Thus, the policies are identical in terms of final wealth.[5] The results showed that 44.3 percent of participants were willing to purchase the policy with the excess, while 67.8 percent of participants were willing to purchase the policy with the rebate. Johnson et al. argue that this is due to framing: policies which charge an excess induce risk seeking behaviour as

[5] Johnson and colleagues point out that the rebate policy is actually financially inferior as consumers cannot receive any interest on the $600, while the excess policy holders do.

they involve the potential for future loss (over and above paying the initial premium). The policy providing the rebate, however, suggests that possibility of a future gain, which is more appealing to consumers and encourages risk averse behaviour (ie. the purchase of insurance).

Prospect theory has also been applied to litigation, and other fields more structurally similar to litigation, such as work place negotiation and international relations. This research will be reviewed in detail in the next chapter.

Chapter 2

Litigation

Having reviewed the theoretical decision making literature, this chapter will consider the problem posed by litigation, and how prospect theory may be applied in order to explain litigant behaviour. The chapter consists of three sections. The first section will briefly consider the economic models of legal decision making and explain why these are not appropriate for litigation. Having discarded these models, the second section will consider how prospect theory can be applied to litigation and review the relevant literature in this area. Given that empirical research into the application of prospect theory to litigation is limited, practical applications in similar fields are also considered. Experimental work in the field of two-party price negotiation, especially that conducted by Margaret Neale and Max Bazerman, is of particular interest here. The final section of this chapter will outline the basic premise of this thesis and provide an overview of the experimental work which follows.

2.1 Economic Models of Suit and Settlement

Early models of litigation sought to explain litigant behaviour in terms of expected utility (see for example Gould, 1973; Posner, 1973; Shavell, 1982). Such models are known as economic models of suit and settlement and continue to dominate the field of empirical legal studies (Rachlinski, 1996). This section will show that these models are inadequate for two main reasons. Firstly, because they cannot account for alterations to an individual's risk preferences; and secondly (on a more practical note) because they provide no means through which the rate of settlement may be manipulated. Despite this, these models will be (briefly) reviewed in order to provide context for the direction of current research. Also worth noting is that while it has become increasingly accepted that economic models do not do a particularly good job of explaining litigant behaviour, it is not clear that there is a better theoretical alternative. Thus, economic models still enjoy some popularity, particularly amongst legal practitioners, although they are increasingly being supplemented by more psychologically motivated concerns.

According to Cooter and Rubinfield (1989), researchers first incorporated economic models into legal theory in the 1960s – an idea which became an "intellectual fad" in the 1970s (p. 1067). Interestingly, however, the first application of economic models to legal problems actually came three centuries earlier. Pierre de Fermat, who collaborated with Pascal to create expected value theory, was a lawyer by profession. His interest in the problem

of points was a legal one: he was seeking a way to fairly resolve legal disputes between individuals (Bernstein, 1996).

The combination of law and economics is a logical one, given their structural and theoretical similarities. For example, 'economic man' is very similar to the 'reasonable person' of legal philosophy. Similarly, both fields deal with situations involving rivalry, communication, side payments and interdependency (Cooter & Rubinfield, 1989).

According to economic models of suit and settlement, a litigant's decision to accept a settlement offer is based on its expected utility (Gould, 1973; Posner, 1973; Shavell, 1982). This view of legal decision making is pervasive, and has been embraced by legal practitioners. For example, US Federal Court Judge Randall Rader proposed that litigants determine the value of a lawsuit by multiplying the probability of winning in court by the amount they are likely to win and then subtracting the legal costs (Rader, 2000). Based on this calculation, a settlement offer is accepted if it is higher than the expected value of the trial. Therefore, a disputant will go to court if, and only if, it is the option with the highest expected utility. On this view, negotiations fail due to differing estimates of the probability of winning at trial by plaintiffs and defendants. Furthermore, the model suggests that relative wealth, size of the trial outcome and probability of winning do not influence the likelihood of two parties reaching a settlement, only the amount of the settlement (for a review see Gould, 1973). The analysis also demonstrates how risk averse litigants should be willing to pay more to achieve a riskless

outcome (settlement).

However, despite their appeal, these models fail to account for litigant behaviour. As stated, there are two main reasons for this. Firstly, models of suit and settlement contemplate only risk-averse and risk-neutral decision making and cannot account for risk-seeking behaviour. This is because individuals are assumed to be rational and seek to maximise their outcomes. On this basis, individuals should be risk neutral, although the concave nature of the utility function (described above at 1.2.2) also allows for risk-averse decision making. Therefore, the main proponents of suit and settlement models (Gould, 1973; Posner, 1973; Shavell, 1982) do not seriously consider the possibility of an individual making risk-seeking decisions as such behaviour is viewed as irrational. For example, Gould surmises that risk-seeking litigants "would be better off not going to court and making the bet on the outcome of a suitably chosen random number generator" (1973, p. 292-3). The failure to contemplate the possibility of risk-seeking behaviour is problematic as it is not consistent with human behaviour. As discussed, there is much empirical evidence to support the proposition that individuals violate the principles of rationality and exhibit risk-seeking behaviour (see above at 1.2.3 and 1.2.5).

The second problem with expected utility in this context flows as a consequence of the first: even if these models could account for all three types of risk preference (aversion, neutrality and seeking), they still provide no way of predicting which state individuals will adopt. While it is never explicitly discussed, utility models of suit and settlement tend to treat risk preferences

as being an internal, stable trait of individuals (that is, rational individuals will be either risk averse or risk neutral). Thus, such models can only demonstrate that risk averse or risk neutral decisions are optimal, but they cannot predict them. Prospect theory, however, treats risk preferences as more transient states which are created (at least in part) by external influences. This allows for the possibility of altering or manipulating risk preferences, which according to prospect theory, can be done through the manipulation of reference points. This is one of the major advantages of prospect theory over standard utility models.

Thus, while models of suit and settlement are able to explain both risk-neutral and risk-averse decisions, they cannot explain, predict or control the risk-seeking behaviour which individuals exhibit under circumstances of uncertainty. Therefore, as Rachlinski (1996) points out, "modifying the economic model with the theories of cognitive psychology would create a richer and more accurate model of suit and settlement" (p. 116).

2.2 Prospect Theory and Negotiation

Acknowledging the need for a behavioural approach, negotiation researchers have considered the findings on heuristics and biases. As discussed, pre-trial litigation is a form of negotiation and while it is structurally distinct from normative bargaining, it is important to understand how the negotiation literature overlaps with and influences litigation research.

The scientific exploration of how people negotiate began in the 1960s, and was investigated largely by social psychologists. According to Bazerman, Curhan, Moore, and Valley (2000), the "cognitive revolution" of the late 1970s caused a decline in negotiation research, until Raiffa's 1982 book "The Art and Science of Negotiation". Here, Raiffa distinguishes between the "art" – defined by an individual's skill and experience – and the "science" – the systematic analysis of problem solving – of negotiation (Raiffa, 1982). Bazerman et al. (2000) argue that Raiffa's work was a turning point for negotiation research for two reasons. Firstly, it explicitly acknowledged that negotiators tend not to be fully rational and do not intuitively follow rational strategies. Secondly, in acknowledging this, Raiffa created a dialogue between prescriptive and descriptive negotiation researchers. As Bazerman et al. point out, there is a "prescriptive need to descriptively understand how negotiators actually make decisions" (p. 292). This began a new field of investigation which became known as 'behavioural decision research'. Two of the most prolific proponents of this literature have been Margaret Neale and Max Bazerman, who have largely defined the field of negotiation research (especially in managerial and other two-party conflicts). This literature has demonstrated support for the heuristics and biases approach in an applied setting. For example, research indicates that negotiators tend to be disproportionately influenced by readily available information (ie. the availability heuristic, see for example Neale, 1984; Pinkley, Griffith, & Northcraft, 1995) and that they tend to be heavily influenced by anchoring (Kahneman, 1992;

Northcraft & Neale, 1987).

Prospect theory has also been found to explain some negotiator behaviour. For example, Neale and Bazerman (1992) found that in simulated negotiations, participants for whom the potential gains had been emphasised (a positive frame) were more likely to reach an agreement and exhibited more concessionary behaviour than their negatively framed counterparts who focused on their potential losses. Findings such as these are based on studies from the literature on two-party price negotiations and managerial conflicts. Thus, there is a firm theoretical basis upon which to consider the application of prospect theory to negotiation. However, it is important to note that two-party price negotiation and managerial conflicts are generally conducted under normative bargaining conditions, whereas litigation is a form of crisis bargaining (as discussed above at 1.1.2). Given this structural distinction, it is unclear which (if any) of these findings are generalisable to litigation and it is this issue which is the focal point of this thesis.

In terms of experimental paradigms, there are two ways to investigate the extent to which prospect theory can explain litigant behaviour. The first method involves the use of scenario evaluations (questionnaires) that present the problem in explicit terms (for example, Rachlinski, 1996; Korobkin & Guthrie, 1994, 1998). The second is a more dynamic but less controlled approach that involves real-time, competitive simulated disputes, similar to those used in the literature on two-party price negotiation. These two paradigms – the scenario evaluation approach and the simulated nego-

tiations – will form the experimental basis of the research presented in this thesis. The remainder of this chapter will review this literature and make clear the motivation for the experimental work which follows.

2.3 Prospect Theory and Litigation

2.3.1 Basic Application

The basic (theoretical) application of framing to litigation can be easily explained using Kahneman and Tversky's subjective value function (as shown in Figure 3). For example, imagine a law suit where the plaintiff is suing the defendant for $20,000 and both parties have an equal chance of winning in court (50 percent). It is often assumed that plaintiffs generally face gains and so are represented on the upper right quadrant of the value function. During pre-trial settlement negotiations, plaintiffs decide what is the minimum amount of money they will receive in order to avoid a trial. During the trial itself, the outcome will (usually) be expressed in terms of how much money the plaintiff receives. Conversely, defendants are represented on the lower left quadrant as it is often assumed that they usually face losses. This is because during the pre-trial negotiations defendants must decide how much money they will pay in order to achieve a settlement. Furthermore, the judgment at trial will determine how much money (if any) the defendant will pay the plaintiff.

For a plaintiff, the decision to go to trial can be viewed as a gamble with a

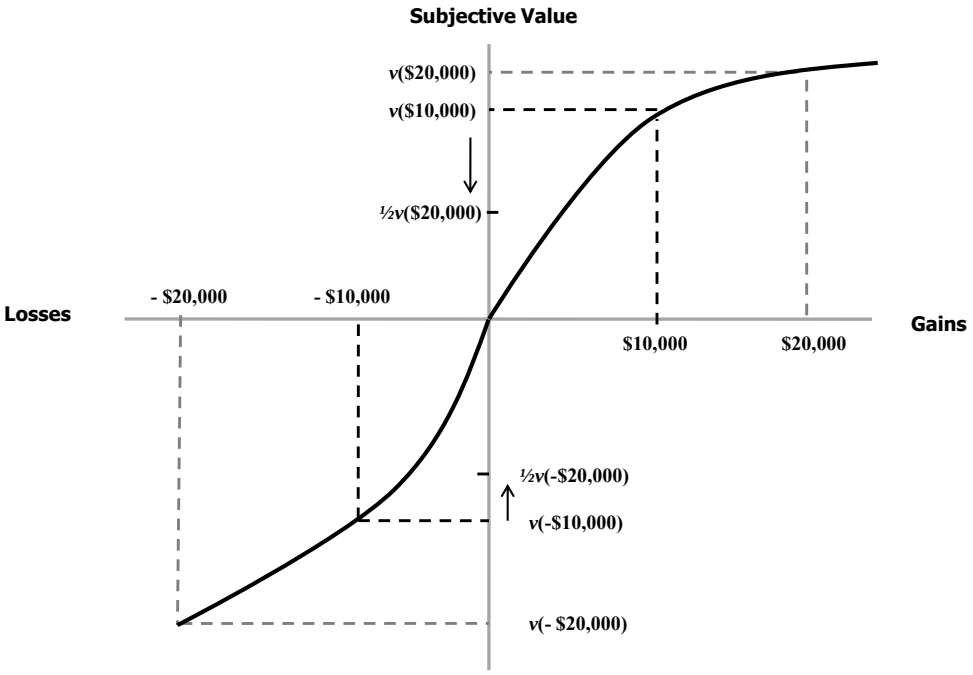

Figure 3: Model of litigation settlement based on Kahneman and Tversky's prospect theory (1983). The plaintiff's decision (upper right quadrant) is represented as a choice between gains, while the defendant's decision (lower left quadrant) is presented as a choice between losses.

50 percent chance of winning and receiving $20,000 and a 50 percent chance of losing at trial and receiving nothing. According to prospect theory, this gamble can be represented as follows:

$$w(p).v(\$20,000) + w(1-p).v(\$0)$$

where w is the weighting function applied to the probability of winning in court (p) and v is the subjective value. The exact weight assigned to each probability is unknown but can be approximated so that $w(p) = p$. as the probability of winning is 50 percent, the value of going to trial is therefore $\frac{1}{2}v(\$20,000)$[1], which is shown in Figure 3.

Similarly, for the defendant the decision to go to trial is a gamble with a 50 percent chance of winning and paying nothing, and a 50 percent chance of losing at trial and paying $20,000. Therefore, using the some process as for plaintiffs, the value of the trial is $\frac{1}{2}v(-\$20,000)$, which is also shown in Figure 3

Imagine now that both parties are deciding whether or not to accept a $10,000 settlement offer. The value of the settlement offer is $v(\$10,000)$ as according to prospect theory, $w(1) = 1$. The shape of the value function shows that plaintiffs prefer the certain $10,000 over the gamble of a trial, even though both outcomes have equal expected value. Prospect theory therefore predicts risk aversion in plaintiffs as $v(\$10,000) > \frac{1}{2}v(\$20,000)$. This is demonstrated in Figure 3. In contrast, defendants, facing losses, are

[1]The null term falls out since according to prosepct theory, $v(0) = 0$.

expected to exhibit risk-seeking behaviour. This is because the value function (which is convex for losses and concave for gains) means that the gamble is relatively more attractive to defendants than the certain loss of $10,000, that is $v(-\$10,000) > \frac{1}{2}v(-\$20,000)$. This is also shown in Figure 3.

2.3.2 One-Shot Scenario Evaluations

Van Koppen (1990) conducted an experiment to explore the extent to which this framework can explain litigant behaviour. This was done using an experimental paradigm which can be referred to as 'one-shot scenario evaluations'. The method is as follows, and most experiments using this paradigm (eg. Rachlinski, 1996; Korobkin & Guthrie, 1994; Guthrie, 2000) follow approximately the same procedure. In the van Koppen study, participants (students and lay people) were presented with a written legal scenario (approximately half a page long), which briefly outlined the facts of a contractual dispute involving the purchase of a puppy from a breeder. The puppy died from a congenital heart defect shortly after delivery, and the dispute is regarding payment for the puppy. In this experiment, participants were placed either in the role of the seller (breeder) or the purchaser, however the facts were altered slightly so that either party could be the plaintiff or the defendant[2].

[2]In one set of facts, the purchaser paid for the puppy upon collection, so that the purchaser becomes the plaintiff who is suing the breeder (the defendant) for the cost of the puppy. In the alternate version, the purchaser was due to pay two months after collection, by which time the puppy has died, so payment is withheld. The purchaser therefore becomes the defendant, who is being sued by the breeder for the cost of the puppy.

Some versions of the scenarios indicated the probability of winning (either 40 or 60 percent, depending on the condition) while others did not.

After reading the scenarios, participants were asked to estimate their probability of winning in court (unless they were given that information) and to indicate their 'reservation price'. That is, if the defendant, the maximum they would be willing to pay to avoid going to court. If the plaintiff, the reservation price is the minimum payment they would accept to avoid going to court. Consistent with the analysis presented above (Figure 3), van Koppen (1990) predicted that plaintiffs would be risk averse and therefore indicate low reservation prices in order to avoid court. That is, setting a low reservation price increases the probability of obtaining the certain outcome (a settlement), as the lower the plaintiff's offer, the greater the likelihood that the defendant will accept. Conversely, defendants are facing losses and should exhibit risk seeking behaviour, which will also be in the form of low reservation prices. This is because the defendant is relatively willing to risk a trial and therefore has little motivation to increase their reservation price above the expected value of the trial.

Van Koppen found support for these propositions in two out of four experiments, providing preliminary support for the application of framing to litigation. One problem with van Koppen's experiment however, was that the facts were altered between the different versions of the scenario in order to allow both the breeder and purchaser to be allocated the role of plaintiff or defendant. This means that role and frame were perfectly confounded.

That is, even though both buyers and sellers could be plaintiffs and defendants, plaintiff outcomes were always described in terms of gains (positive frame) and defendant outcomes were always described in terms of losses (negative frame). This makes it difficult to distinguish between the effects of role and frame. It is therefore not possible to attribute the observed differences entirely to framing.

Rachlinski (1996) further supported van Koppen's findings using a legal scenario which was closer in form to Kahneman and Tversky's Asian disease problem. Participants were presented with the same legal dispute from the point of view of either the plaintiff or the defendant. After reading the materials, the participants were asked to choose between two options; accepting a fixed settlement or risk going to trial with an equivalent expected outcome. There were eight experimental conditions which varied both the probability of each party winning at trial and the amount of money involved. For example, in one scenario the amount in dispute was $100,000 and the choice was between accepting a settlement offer of $30,000 or to go to trial where there was a 30 percent chance of winning and receiving $100,000 and a 70 percent chance of losing and effectively receiving nothing. Overall, the results were consistent with differential framing of plaintiffs and defendants with 82 percent of plaintiffs choosing to settle compared with only 45 percent of defendants.

Rachlinski (1996) also used court records to show that real settlement negotiations are consistent with prospect theory. Rachlinski analysed over 500

civil court proceedings, only using cases where information on the preceding settlement negotiations was available. Each case was coded into one of three categories. Cases were coded as 'plaintiff error' if the trial outcome was below the defendant's final offer. That is, if the plaintiff would have been better off (financially) if they had accepted the out of court settlement offer, rather than going to trial. Cases were coded as 'defendant error' if the trial outcome was higher than the plaintiff's final offer. That is, when the defendant would have been better off accepting the final settlement offer. The third classification was 'no error', given to cases where the trial outcome fell between the plaintiff and the defendant's final offer. Across the 500 cases analysed, Rachlinski found that plaintiff errors were more common (56 percent) than both defendant errors (23 percent) and no errors (21 percent).

Despite plaintiff errors occurring more frequently, Rachlinski found that defendants, on average, lost more money by choosing to go to trial. By multiplying the mean size of each error (that is, the average difference between the other party's final offer and the trial outcome) by its probability of occurrence, Rachlinski found that plaintiffs lost an average of $15,532 per case by choosing to go to trial. In contrast, failure to reach a settlement cost defendants an average of $81,638 per case. This analysis suggests that defendants are more risk seeking as their offers were too low to induce settlement. According to Rachlinski, this risk seeking behaviour is indicative of a negative frame. Conversely, plaintiffs were considered risk averse as their mean 'error' was smaller than that of defendants. Plaintiff settlement offers

were therefore much closer to their average outcome in court. According to prospect theory, this risk aversion is due to a positive frame.

Role, Frame and Reference Points

Previous research therefore suggests that prospect theory may provide an explanation for litigant behaviour. This synopsis also highlights the underlying assumption which has driven litigation research to date – that role differences are due to framing differences. This assumption appears to have begun with Hogarth (1987), who is credited with making the first link between prospect theory and litigation (Guthrie, 2000). In his multi-disciplinary guide to decision making, Hogarth states that "perspectives or frames are implied by the role a person brings to a situation" (1987, p. 105). He further hypothesised that plaintiffs and defendants face mirror-image, zero-sum decisions. More specifically, plaintiffs adopt a positive frame and are therefore risk averse, while defendants' risk seeking behaviour arises from their negative frame. As demonstrated, this idea has since been adopted and empirically tested by van Koppen (1990), and Rachlinski (1996).

Prospect theory, however, does not predict that plaintiffs and defendants will necessarily adopt positive and negative frames (respectively). Frame adoption depends on the evaluation of outcomes in terms of gains and losses from a given reference point. Indeed, there is no research which suggests that role definitively determines frame. As discussed in the previous chapter, the process of reference point adoption is relatively understudied (Butler,

2007) and therefore not well understood. The assumption that plaintiffs and defendants will be positively and negatively framed relies on the further assumption that both parties will adopt the status quo as their reference point. This is demonstrated in Figures 4 and 5, for plaintiffs and defendants respectively. Figure 4 illustrates the situation where a plaintiff suddenly experiences significant damage (represented on the y-axis by a loss of wealth from \$0 to $-$\$20,000) allegedly caused by the defendant as a result of the circumstances which gave rise to the legal dispute. From that post-incident position (the status quo, marked by A), the plaintiff is choosing amongst gains (creating a positive frame). Figure 5 illustrates how the situation is reversed for the defendant, whose status quo reference point (also marked by A) means that they are choosing between losses, thus leading to a negative frame.

The status quo is just one possible reference point that parties may adopt. Kahneman and Tversky themselves point out that an individual's expectations could be just as important in the determination of reference points – a proposition that was further supported by Koszegi and Rabin (2006). If expectations influence reference points, there are many situations which may cause litigants to evaluate their options based on their 'pre-incident' position. For example, imagine the plaintiff who is making a personal injury claim against an insurance company following a motor-vehicle accident. Believing the accident to be the other driver's fault, the plaintiff may expect (whether rightly or wrongly) to be fully compensated for the cost of their

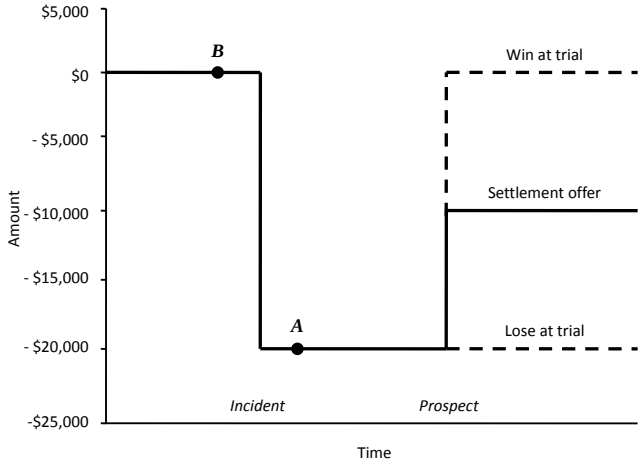

Figure 4: Plaintiff's evaluation of outcomes from two reference points, A and B. Outcomes are evaluated as gains relative to A but are evaluated as losses relative to B.

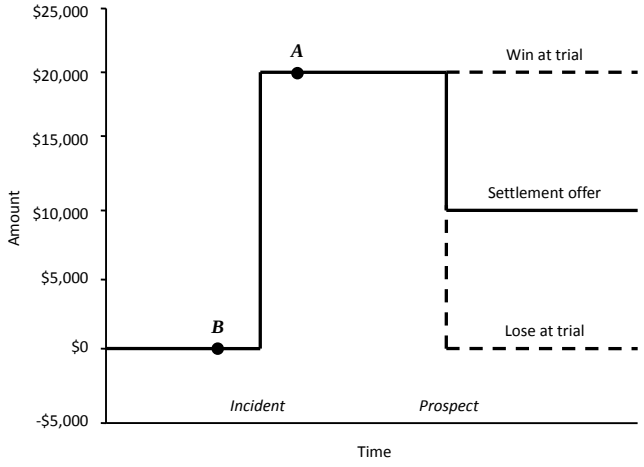

Figure 5: Defendant's evaluation of outcomes from two reference points, A and B. Outcomes are evaluated as losses relative to A but are evaluated as gains relative to B.

repairs and medical treatment. If, after commencing litigation, they discover they will not be fully reimbursed, the plaintiff will be choosing amongst losses and may exhibit risk-*seeking* behaviour, as caused by a negative frame. This is illustrated in Figure 4 by the pre-incident reference point B.

Similarly, there is no reason why a defendant could not adopt a positive frame based on their pre-incident position. For example, imagine the defendant who expects to lose a certain amount of money as a result of their actions - anything less than anticipated would therefore represent a gain. A common example of this type of defendant would be the editor of a tabloid magazine who knowingly decides to print defamatory articles. Such editors expect to be sued by the defamed individual but calculate that they will sell enough extra magazines to ensure a profit. Therefore, any settlement offer which is less than the calculated loss could be viewed as a gain. Another example of this type of reasoning is the calculation of insurance premiums and the assessment of associated claims.[3] Thus, there is no reason to assume a defendant will necessarily adopt a negative frame. Instead they may adopt a positive frame and become more risk averse. This situation is summarised in Figure 5 by the pre-incident reference point B. From this position, both a win at trial and the settlement offer appear as gains.

This analysis suggests that role and frame are independent constructs. If this is true, there is no theoretical reason to assume that plaintiffs and

[3]Prospect theory has been successfully applied to decision making in the insurance industry, both in terms of claim assessment and individual preference for different types of cover. See for example Johnson et al. (2000).

defendants need to adopt opposite frames. Indeed, if it is possible for both parties to adopt positive frames the chance of negotiating a settlement should increase. That is, plaintiffs should be risk averse and therefore willing to accept a lower settlement offer. Similarly, defendants would also want to avoid court, thus providing higher maximum offers. In combination, this should increase the likelihood of overlap between the two parties' reservation prices, resulting in a higher settlement rate.

One previous study by Korobkin and Guthrie (1994) attempted to apply this pattern of framing to plaintiffs. In this study, participants were told that they had been involved in a motor vehicle accident in which they had sustained damages worth $28,000 and that according to their lawyer they would receive either $10,000 or $28,000 at trial, depending on how the judge interpreted a clause in the relevant insurance policy. They were also told that the defendant (the insurance company) had made a final offer of $21,000, and were asked to indicate whether they would accept such an offer. Participants were then given further information that placed them in either a positive or negative frame. In the positive frame, participants were told that their total damages consisted of $14,000 in medical bills that had already been paid by their health insurance fund and a further $14,000 corresponding to the value of their motor vehicle. In the negative frame, participants were told that their total damages consisted of $4,000 in medical bills that had already been paid by their health insurance fund and a further $24,000 corresponding

to the value of their motor vehicle.[4] Faced with these alternatives, Korobkin and Guthrie found that 90 percent of positively framed plaintiffs would either probably or definitely accept the offer, while only 64 percent of the negatively framed plaintiffs responded in the same way.[5]

Although Korobkin and Guthrie concluded that framing can alter a plaintiff's propensity to settle, their results are not easily interpreted for two reasons. Firstly, the two 'frames' create an *objective* difference in terms of outcomes. That is, if the plaintiff in the positive frame accepts the offer, they will be $7,000 better off than before the accident. Conversely, the settlement offer represents an objective final loss of $3,000 for negatively framed plaintiffs. This is not a true framing manipulation as it alters objective outcomes, not just reference points.

The second issue with this study is that the reference point for both positive and negative frames is ambiguous. Figure 6 presents the structures of the positive and negative frames used by Korobkin and Guthrie (1994) in the same form as shown in Figures 4 and 5. It is apparent that unlike the Asian disease problem, the scenarios used by Korobkin and Guthrie create

[4]The type of motor vehicle was varied between the two versions in order to account for the difference in value. In the positive frame, the plaintiff was driving a Toyota Corola, while in the negative frame they had a BMW. Therefore, in addition to providing multiple reference points (explained below), Korobkin and Guthrie (1994) also varied the facts of the scenarios between frames. Methodologically, this adds further possible confounds to the interpretation of their results.

[5]Similar results were reported for the other two scenarios which were presented in the same study. These involved a property dispute with a neighbour and a child custody dispute between parents. The framing manipulations followed a similar pattern to that of the motor vehicle accident.

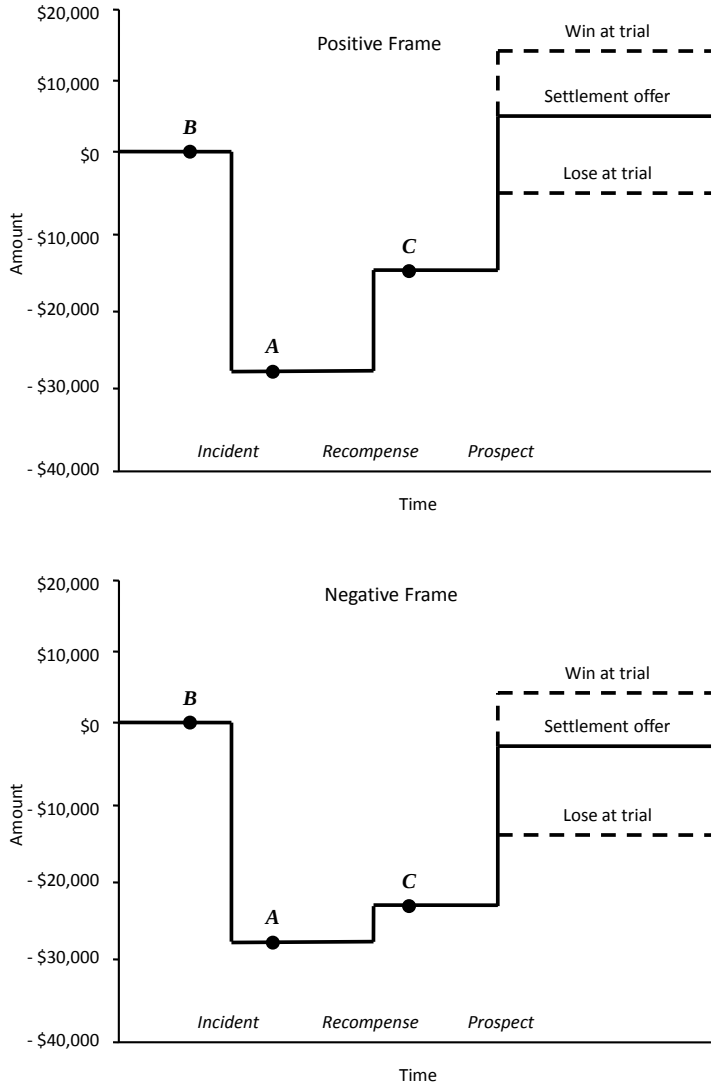

Figure 6: Outcome structures used by Korobkin & Guthrie (1994). Positive or gain frame (top) and negative or loss frame (bottom).

three events on the timeline. These are defined by the incident, corresponding to the total damages incurred through the accident, initial recompense of medical bills, and the final prospect. As a result, there are three distinct reference points, A, B, and C, and only from point B do the outcomes of the prospect differ between the two frames. This means that if the difference in settlement rates is to be attributed to the difference in framing, it can only be because some proportion of participants chose to evaluate the prospect from the pre-incident point B. The problem here is that there is nothing in the scenario which would suggest that they should do this.

If plaintiffs were to adopt a pre-incident reference point (B), it would contradict the interpretation offered by both van Koppen (1990) and Rachlinski (1996) of their results for which they assumed that plaintiffs would evaluate the prospect from the post-incident point A (or C). It is also apparent that from any of the three reference points, the values of the outcomes differed between the two framing conditions. It is therefore difficult to attribute these results to the effect of framing alone. This leaves the issue of whether prospect theory can be applied to litigation is still largely unanswered.

The possibility that role and frame may be independent constructs was explored by Gilliland and Dunn (2008).[6] The study sought to investigate the relationship between role and frame by framing plaintiffs and defendants in terms of both gains and losses. This was done by placing participants

[6] As explained at the beginning of the next chapter, experiment 1 of Gilliland and Dunn (2008) was conducted as part of my honours research.

Figure 7: The probability of settlement for each role/frame condition for each scenario based on the yes/no data from experiment 1 of Gilliland & Dunn (2008).

in the role of either a plaintiff or defendant and asking them to consider a legal scenario. The scenario included the basic facts of the case, details of a settlement offer and a lawyer's advice regarding the probability of winning in court. Participants were then asked to indicate whether or not they would accept the offer and settle out of court. Participants responded in each of the four conditions - positively framed plaintiff, negatively framed plaintiff, positively framed defendant and negatively framed defendant.

The results of Gilliland and Dunn (2008) suggest that role and frame are indeed independent constructs and that the effects of framing are not contingent upon role. These findings are inconsistent with previous research as they suggest that frame can alter preference for normatively equivalent

outcomes for both plaintiffs and defendants. The results of this experiment are presented in Figure 7, which show framing to have a systematic and highly significant effect across all scenarios. The effect was always in the same direction, with positively framed litigants more likely to settle than their negatively framed counterparts. The magnitude of the effect was also fairly consistent - on average, positively framed litigants were approximately 25 percent more likely to accept the settlement offer. This is demonstrated in Figure 7.

The results found by Gilliland and Dunn (2008) are consistent with the predictions of prospect theory, as proposed by Kahneman and Tversky (1979). Indepndent of role, negatively framed litigants, for whom the potential losses have been highlighted, are more risk seeking and therefore less likely to settle out of court. Conversely, positively framed litigants are more risk averse as they are choosing amongst gains, and therefore find the certainty of settlement more attractive than the gamble of going to court.

Gilliland and Dunn (2008) found that role had only a minor overall effect on settlement decisions. This is most likely because the direction and magnitude of the effect differed for each scenario (evident from Figure 7), with neither party consistently more likely to settle than the other. This effect was not predicted by either economic theory or past research. Thus, the starting point for this thesis is to further explore the results of Gilliland and Dunn (2008, Experiment 1), with an overall aim to consider how framing may be used to induce settlement during legal disputes.

2.4 Overview of Experiments

The primary aim of this thesis is to consider whether Kahneman and Tversky's prospect theory can explain litigant behaviour and, in doing so, to consider whether framing might be used to increase the likelihood of parties negotiating an out of court settlement. Studies 1 and 2 build on the findings of Gilliland and Dunn (2008) by appropriately applying prospect theory to litigation, based on the original formulation of the Asian disease problem. These studies suggest that role and frame are independent constructs, and that positively framed litigants are more likely to settle than their negatively framed counterparts.

Study 3 attempted to apply the findings from the one-shot paradigm to a more dynamic approach – simulated negotiations. This study uses a procedure similar to that employed by Neale and Bazerman (1985, 1992) and others in relation to two-party price negotiation and managerial conflict. Study 4 follows the same form as Study 3, but introduces court costs and legal fees. To the author's knowledge, Studies 3 and 4 are the first examination of framing effects in litigation during live negotiations. Studies 5, 6 and 7 return to the one-shot scenario evaluation paradigm in an attempt to determine whether the results found in Studies 3 and 4 are due to the change in methodology, the introduction of court costs, or some other factor.

The experimental work presented in this thesis, including the major independent variables, is summarised in Table 1. The 'design' variable reflects the

experimental paradigm used, where SE refers to the one-shot scenario evaluation studies, while SN denotes simulated negotiations. 'Costs' indicates whether or not participants were asked to consider legal fees in their decision making process (yes/no). 'Judgment' refers to how participants were told the trial decision would be made − either based on evidentiary concerns (E) or dependent on which judge presides over the trial (J). The final variable presented in Table 1 is 'scenarios' which refers to the cover stories used in each study. The cover stories were either the originals (O) used by Gilliland and Dunn (2008), or adapted scenarios (A), which follow the same general pattern as the originals. Studies 5, 6 and 7 (marked A*) used three of the adapted scenarios and one of the originals.

Table 1: Overview of experimental manipulations across all 7 studies presented in this thesis.

Study	n	Design	Costs	Judgment	Scenarios
1	192	SE	N	E	O
2	216	SE	N	E	O
3	20	SN	N	J	A
4	56	SN	Y	J	A
5	144	SE	Y	J	A*
6	112	SE	N	J	A*
7	189	SE	N	E	A*

Chapter 3

One-shot Scenario Evaluations

Note Regarding Published Work

Much of the work for Studies 1 and 2 (including their subsequent combination and re-analysis) is contained within a paper published in *Judgment and Decision Making* in October, 2008. 'Experiment 1' in that paper (which is discussed in the previous chapter) refers to work relating to my honours project, and does not form part of this thesis. 'Experiment 2', however, is made up of the first two studies presented here, which marks the beginning of my doctoral candidature. The paper, as published, is contained in Appendix A for reference.

3.1 Study 1

This study seeks to extend the work of Gilliland and Dunn (2008). As discussed, experiment 1 of Gilliland and Dunn (2008) was the first to illustrate that role and frame were independent constructs. In addition to this, the experiment revealed an unexpected result which provides the impetus for the current study. Although analysis revealed that there was little or no overall difference between plaintiffs and defendants in their propensity to settle, the effect of legal role varied considerably between the different factual scenarios used. In marked contrast to the view that plaintiffs are always more risk averse than defendants, the results of Gilliland and Dunn (2008) showed that it is possible, under some circumstances, for plaintiffs to be less likely to settle than defendants, independently of how they frame the dispute. For example, in scenario 3 of their study, Gilliland and Dunn found that, on average, the probability of a plaintiff settling was 52 percent, whereas defendants chose to settle in 75.5 percent of cases.

A superficially similar result was reported by Guthrie (2000), who found that defendants were more willing to settle than plaintiffs in 'frivolous' litigation, in which plaintiffs have little or no chance of winning at trial. In this case, according to prospect theory, plaintiffs over-weight their small probability of winning while defendants under-weight their high probability of winning, leading to a preference inversion. This mechanism does not directly explain the results of Gilliland and Dunn since both plaintiffs and defendants

were told that they had equal chances of winning at trial.

Although the probability of winning at trial was fixed at 50 percent, it is possible that participants departed from this figure in estimating their own subjective probability of winning, although not to the extent examined by Guthrie (2000). This estimation could have been based on the content of each scenario and the participants' general knowledge and experience of the law. If there were systematic differences between scenarios in the subjective chance of winning at trial, this would affect settlement rates and could account for the variable effect of role. Study 1 investigates this possibility by asking participants to provide estimates of their chance of winning at trial.

Another possible explanation for the seemingly inconsistent role effect is that participants may have been basing their responses on perceptions of justice and morality. As van Koppen (1990) points out, paying participants can affect their motivations and hence alter their decision making process. Participants in Experiment 1 of Gilliland and Dunn (2008) were unpaid and were not gambling with their own money. It is possible this caused participants to give socially desirable responses, based on perceptions of fairness, rather than more personal motives such as financial success. If true, this would make the seemingly more righteous parties less willing to settle - a hypothesis which, prima facie, fits the data. For example, in the contractual dispute of scenario 3, the facts can be read so as to suggest that the defendant dishonestly 'ripped off' his business partner, the plaintiff. This could explain why the defendants were significantly more willing to settle - they

felt they were on morally weaker ground.

It is important to realise that this explanation is different from suggesting that parties inferred their own ideas about their chances of success at trial. To say that an individual may feel they are morally wrong is different to saying that they feel they would lose in court. Indeed, there is no necessary link between morality and the law. Van Koppen (1990) found some support for the hypothesis that parties who feel they will lose at court are more risk-seeking and hence less likely to settle than those who feel they will win. While counter-intuitive, this finding is consistent with prospect theory literature. For example, prospect theory has been used to explain why investors will often sell shares which increase in value, and hold onto those whose value declines - a similar concept to refusing to settle out of court despite expecting to lose.

This 'fairness hypothesis' could also explain scenario 2, which exhibited no role effect. The defendant wrongly built on the plaintiff's land, but the plaintiff exhibited greed by attempting to elicit more compensation than the land was worth. Thus, respondents favoured neither party. Using the same scenarios, Study 1 will explore this idea further by asking participants to provide an indication of which party they believe to be morally justified in their position.

3.1.1 Method

Participants

The participants were 192 psychology students (49 males) at the University of Adelaide who received course credit for their participation. They were aged between 16 and 39 ($M = 19.6$, $SD = 4.01$) and were randomly assigned to one of four groups. There were no other exclusion criteria.

Materials

Participants completed a paper questionnaire consisting of four legal scenarios. Each scenario was presented in one of four test conditions defined by the factorial combination of role (plaintiff or defendant) and frame (positive or negative). Thus, each scenario could be presented to participants either as a positively framed plaintiff (P+), a negatively framed plaintiff (P-), a positively framed defendant (D+) or a negatively framed defendant (D-). The assignment of scenarios to each role/frame combination was counterbalanced across four different versions of the questionnaire. In each version, the four scenarios were always presented in the same order, and the order of each role/frame condition was counter balanced using a Latin square arrangement, as shown in Table 2.

Each scenario outlined the facts of a legal dispute which could plausibly be presented in both positive and negative frames for both the plaintiff and

Table 2: Latin Square arrangement of condition for each version of the questionnaire.

	Scenario			
Version	1	2	3	4
1	P+	P-	D-	D+
2	D-	D+	P+	P-
3	P-	D-	D+	P+
4	D+	P+	P-	D-

the defendant. Version 1 of the questionnaire is presented in Appendix B and includes samples of all four scenarios. The first scenario involved a defamation claim between a shop owner and a newspaper. The second scenario outlined a property dispute between an investor and a bed-and-breakfast operator. The third scenario was a contractual dispute between two business partners regarding entitlement to income and the fourth scenario described an inheritance dispute between two cousins. In each case, it was stated that the plaintiff was suing the defendant for $20,000 and that the chance of winning at trial was 50%. If the plaintiff won at trial then the defendant would have to pay the full $20,000. Alternatively, if the plaintiff lost at trial then the defendant would have to pay nothing. For simplicity, there were no legal costs associated with the case.

Each scenario established the relevant legal role by means of an initial statement of the form: 'You are the plaintiff/defendant in a litigation suit'. The relevant frame was established through alternative wording of the trial outcomes and the offer. For example, in the first scenario, the trial outcome

in the P+ condition is described as follows:

> 'Your lawyer has estimated that you have a 50% chance that the judge will rule in your favour and you will receive $20,000 in compensation and a 50% chance that the judge will rule against you and you will receive nothing in compensation.'

In the D- condition, the phrase, 'receive in compensation' was replaced by the phrase 'pay in compensation'. In the P- condition, this phrase was replaced by the phrase, 'lose in income', while in the D+ condition, it was replaced by the phrase, 'keep in new income'.

The Settlement Offer. After reading the facts of the case, participants were informed that their opponent had made a final offer to settle for $10,000. They were told that it was 'the night before the trial was due to begin' and that the decision to accept or reject the offer must be made immediately, and that it would be final. This was done in order to avoid any attempt at strategic behaviour, such as holding out for a better offer. As with the facts of the scenarios themselves, the wording used to convey the settlement offer was dependent upon the role/frame condition. For example, the P+ condition, participants were told: 'If you accept this offer, you will receive $10,000 in compensation.'

Following the same format as outlined above, negatively framed plaintiffs were warned that accepting the offer would mean losing the new income. The decision was presented to defendants in a corresponding format.

Subjective Probability of Winning. After indicating whether they

would accept the settlement offer, participants were asked the following question:

> 'Your lawyer has advised that you have a 50% chance of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?'

It was hoped that this would provide an estimate of each participants' subjective probability of winning for each role/frame condition.

Moral 'Right'. After completing all four scenarios, participants were asked to indicate, on a five point scale, which party they thought was morally justified ('in the right') for each scenario. The scale ranged from 1 ('plaintiff definitely in the right') to 5 ('defendant definitely in the right'), with 3 indicating 'plaintiff and defendant equally right'. The scale, as presented to participants, is contained in Appendix B. This task was presented at the end of the questionnaire, after participants had completed all previous questions, so that it would not interfere with their initial judgment of the scenarios.

Design and Procedure

This Study was presented via a pencil and paper test, and participants were randomly allocated to one of four groups, corresponding to the version of the questionnaire they received. They were asked to read and respond to all four scenarios in the order in which they were presented. They were further instructed to consider each scenario separately and to make their

decision solely on the basis of the details provided, without regard to legal fees or court costs. They were also asked not to view the scenarios as moral dilemmas, as both plaintiffs and defendants would feel that their position was correct (even though they are asked to make such a judgment at the end of the experiment, it was hoped that this instruction would prevent participants from considering this while making judgments about settlement).

3.1.2 Results

Settlement Rates

Figure 8 shows the overall proportion of accepted settlements collapsed over scenario as a function of legal role and frame. The data were analysed using logistic regression with each response treated as an independent observation. The pattern of results is similar to that found in Experiment 1 of Gilliland and Dunn (2008), with the analysis revealing a significant effect of frame, $\chi^2(1) = 30.22$, $p < .001$, a marginally significant interaction between role and frame, $\chi^2(1) = 4.45$, $p = .035$, and no effect of legal role, $\chi^2(1) = 0.17$, $p = .682$.

Figure 9 shows the pattern of results for each scenario. Although the frame effect appears to be less pronounced in these data, the variable effect of role was replicated. The effect of frame was significant ($p < .05$) in three of the four scenarios, $\chi^2(1) = 4.33, 26.76, 4.78, 2.42$, respectively. The exception was scenario 4. However, in all cases, positively framed litigants were more

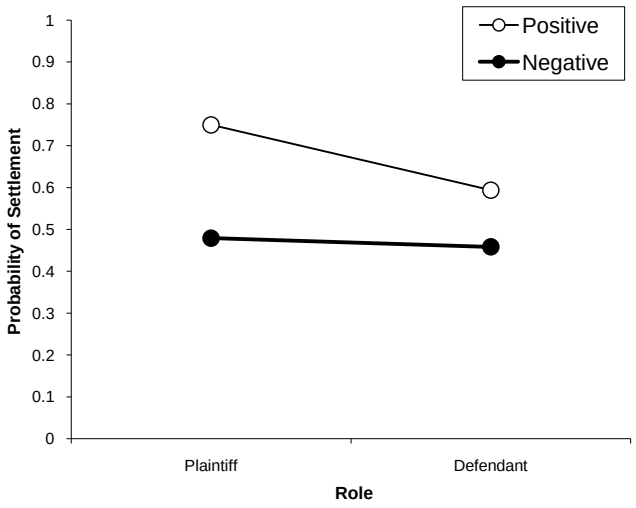

Figure 8: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across scenarios.

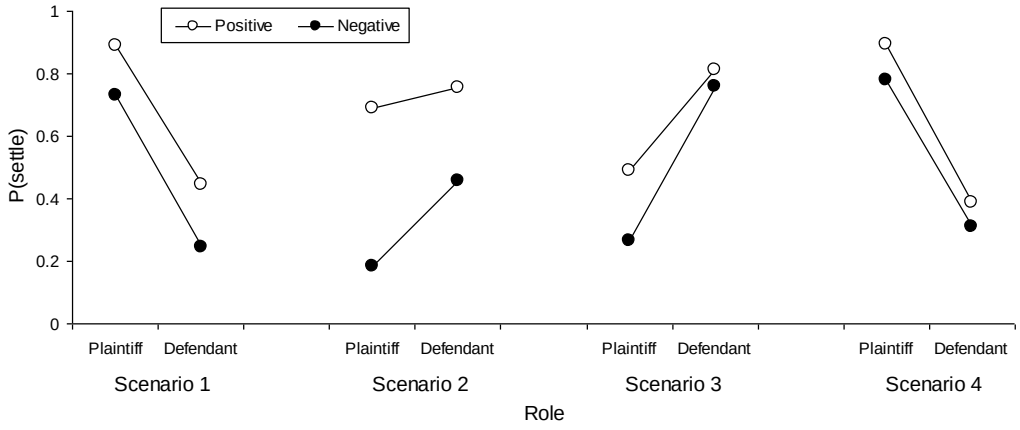

Figure 9: Proportion of settlement acceptances as a function of legal role and frame for each scenario.

likely to settle than negatively framed litigants. In contrast to experiment 1 of Gilliland and Dunn (2008), the effect of role was significant ($p < .01$) in all four Scenarios, $\chi^2(1) = 22.79$, 8.94, 24.95, and 20.58, respectively. Collapsed across frame, plaintiffs were more likely to settle in scenarios 1 and 3, and less likely to settle in Scenarios 2 and 4. The interaction between role and frame was not significant in any scenario.

Subjective Probability of Winning

Figure 10 shows the average subjective probability of a plaintiff win as a function of role/frame condition and scenario. This reveals two main results. First, there are substantial differences between the scenarios in terms of the estimated chance of the plaintiff winning, $\chi^2(3) = 168.13$, $p < .001$, by Friedman's test. Overall, participants tended to agree that the plaintiff had the greatest chance of winning at trial in scenario 3, followed, in decreasing order, by scenarios 2, 1, and 4. In fact, despite being informed that there was always a 50% chance of winning at trial, participants provided a wide range of estimates for what they believed to be the actual chance. These estimates covered the full range from 0% to 100%, and were approximately normally distributed with an overall mean of 52.1% and a standard deviation of 21.9%.[1]

The second main result was that the estimated chance of the plaintiff

[1]The assumption of normality is not technically appropriate here, given that probability is a bounded range, which may cause the tails of the distribution to be condensed. However, as the distribution of reported probabilities is centred on this range, any issues arising from truncation are negligible.

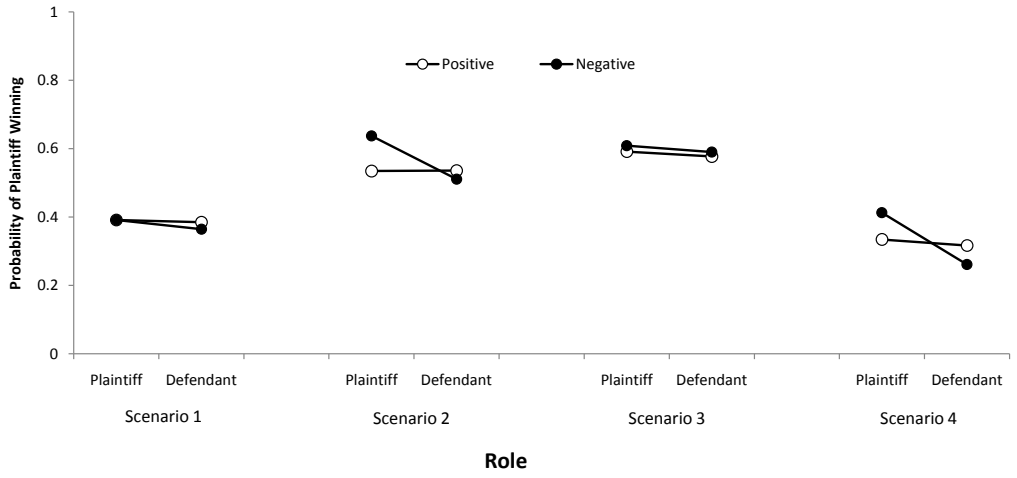

Figure 10: Average subjective probability of a plaintiff win as a function of role/frame condition for each scenario.

winning at trial was only slightly affected by role and frame. By and large, both plaintiffs and defendants formed a similar opinion of the likelihood of each winning at trial. That is, while there were some differences in subjective probability of winning between conditions, the size of these effects were very small, explaining only 2.2% of the variance in probability estimates. Despite this, however, there were some small and intriguing effects. First, there is some evidence of a self-serving bias with plaintiffs tending to estimate their chances of winning as being higher than that estimated by defendants, especially in the negative frame condition. Second, being in a negative frame increased the subjective estimate that one would win at trial. This is revealed in Figure 10 by an increase in the estimated probability of a plaintiff win for plaintiffs in a negative frame coupled with a decrease in the estimated

probability of a plaintiff win, and hence an increase in the probability of a defendant win, for defendants in a negative frame.

Subjective Probability and Settlement Rates

In order to test the hypothesis that variation in the effect of role across scenarios is due to variation in the subjective probability of winning at trial, the data from each scenario were re-analyzed using subjective probability as a covariate. The results of the overall analysis (across all scenarios) showed, as would be expected, that perceived probability of winning is a strong predictor of settlement, $\chi^2(1) = 340.88$, $p < .001$. Furthermore, once variation in subjective probability has been controlled for, the role effect disappears, $\chi^2(1) = 1.27$, $p = .26$, and only the effect of frame remains, $\chi^2(1) = 21.75$, $p < .001$. The interaction between role and frame was unchanged, $\chi^2(1) = 1.94$, $p = .163$.

Analysis of the individual scenarios revealed a similar pattern, with subjective probability highly significant ($p < .001$) for all scenarios. With the covariate removed, the effect of frame remained significant ($p < 0.05$) in scenarios 1, 2 and 3, $\chi^2(1) = 4.38$, 18.29, 5.74, respectively. In contrast, the effect of role was eliminated in each scenario except scenario 3, $\chi^2(1) = 1.45$, 1.14, 4.85 ($p = .028$), and 1.72, respectively. The interaction between role and frame did not approach significance in any scenario.

Moral Right

Analysis of the data from the 'moral right' likert scale reveals a strong, positive correlation[2] between perceived moral justification and the subjective probability of winning ($r = .795$, $p < .001$). This suggests that the higher the (subjective) chance of the defendant winning, the more likely they are to be considered morally justified in their position, and vice versa.

3.1.3 Discussion

The main discussion for this study is contained in section 3.3, where the data from Studies 1 and 2 are re-analysed together. As discussed below, this is due to the possible contamination effects caused by asking participants to report their subjective probability of winning after stating whether or not they would accept the $10,000 settlement offer. As one anonymous reviewer pointed out, it could be that participants were fitting their estimates to their decisions. For this reason, Study 2 reverses the order of presentation and the results are discussed below.

However, before moving onto Study 2, the implications of the moral right data should be briefly discussed. The data show a strong relationship between perceived moral justification and the subjective probability of winning. It is not clear which factor is driving the relationship, and there is much to be

[2]Pearsons correlation is not the correct mode of correlation for one ordinal and one continuous variable. However, it is a robust test and treating an ordinal variable as continuous makes little difference when considering effects of this magnitude.

learnt about people's perception of the relationship between morality and the law. This line of research is beyond the scope of this thesis. What is important to note for now is that in terms of the decision making process, it is apparent that the moral right scale is providing little information over and above the subjective probability of winning. Therefore, the issue of moral justification will not be pursued in subsequent experiments.

3.2 Study 2

While maintaining the main design from the previous study, Study 2 contained some slight changes to the methodology and sought to further define the differences between the experimental conditions of role and frame. Firstly, for reasons largely relating to efficiency, this Study was presented to participants online, rather than via paper and pencil test. The facts of each scenario were presented in a single screen, along with their associated questions. This prevented participants from retrospectively altering their responses after reading a new scenario. It was expected that this would increase the likelihood that participants would treat each scenario individually, minimising interference from previous decisions.

In a similar vein, the order of the questions relating to settlement and subjective probability were reversed. Participants were first asked to consider what they believed their chance of winning was, and then asked whether they would accept a $10,000 settlement offer. It was hoped that this would

overcome any potential contamination effects caused by participants fitting their subjective probability to match their response to the settlement offer.

In addition to this, the description of the objective probability was altered for all scenarios. The range of subjective probabilities reported in Study 1 was surprising, given that all parties were provided with an objective 50% chance of winning. As one anonymous reviewer commented, the scenarios contained 'very few facts that would provide a basis for the subjects to question that estimate. It is remarkable they did not all say 50%'. One possible reason for participants' reluctance to accept the objective estimate could be that 50% sounds too arbitrary or unrealistic, given the seemingly unpredictable nature of the law. If this is the case, people may simply be ignoring the provided estimate in favour of their own understanding of the law. With this in mind, the scenarios in Study 2 were altered to provide an estimate of 40-60% chance of winning. While obviously this estimate still converges on 50%, it was expected that providing such a range would more successfully anchor responses to the 50% criterion.

Study 2 also attempted to gain further insight into each party's reservation price, or 'bottom line'. Asking whether participants will accept a specific offer (in this case, $10,000), provides only a point estimate of their willingness to settle. Asking plaintiffs the minimum amount of money for which they would prefer to settle rather than risk court proceedings, should provide a probability distribution which can be compared between frames. The same is true for defendants, however their reservation price is the max-

imum amount of money they are willing to pay in order to avoid going to court. It was hoped that these measures would provide a better basis upon which the experimental manipulations of role and frame may be compared.

3.2.1 Method

Participants

The participants were 216 psychology students (64 males) at the University of Adelaide who received course credit for their participation. They were aged between 17 and 49 ($M = 19.97, SD = 4.49$) and were randomly assigned to one of four groups.

Materials and Design

This study was presented online[3] and used the same four scenarios as Study 1. However, the description of the chance of winning in court was altered for all scenarios. Participants were informed they had a '40-60% chance of winning in court', regardless of their role or frame. Additionally, participants were asked to provide their subjective probability of winning directly after reading the facts of the case, rather than after the settlement offer, as was the case in Study 1.

Finally, after indicating whether or not they would accept a $10,000 settlement offer, participants were asked to consider what their final offer (reser-

[3]The open source software LimeSurvey was used, and is available at www.limesurvey.org

vation price) would be, in order to avoid going to court. For plaintiffs, this would be the *minimum* amount of money they would demand in order to avoid proceeding to trial. Conversely, for defendants, this would be the *maximum* amount of money they would be willing to pay the plaintiff in order to settle out of court. Participants were asked to indicate their bottom line 'regardless of whether they had accepted or rejected the settlement offer'. Participants were not asked to provide an index of moral justification as in Study 1.

3.2.2 Results

Given that part of the reason this study was conducted was to explore possible order effects in Study 1, most of the formal analysis of settlement rates and subjective probability will be reported in section 3.3 below. That section presents a re-analysis of data from Studies 1 and 2 combined, and contains a lengthy discussion of these results. However, before considering the combined data, the main results of this experiment will be summarised.

Settlement Rates

Figure 11 demonstrates the overall proportion of accepted settlements collapsed over scenario as a function of legal role and frame. The overall pattern is similar to that found in Study 1. Statistical analysis revealed a significant effect of frame, $\chi^2(1) = 32.38$, $p < .001$ and a marginally significant effect of legal role, $\chi^2(1) = 3.97$, $p < .046$.

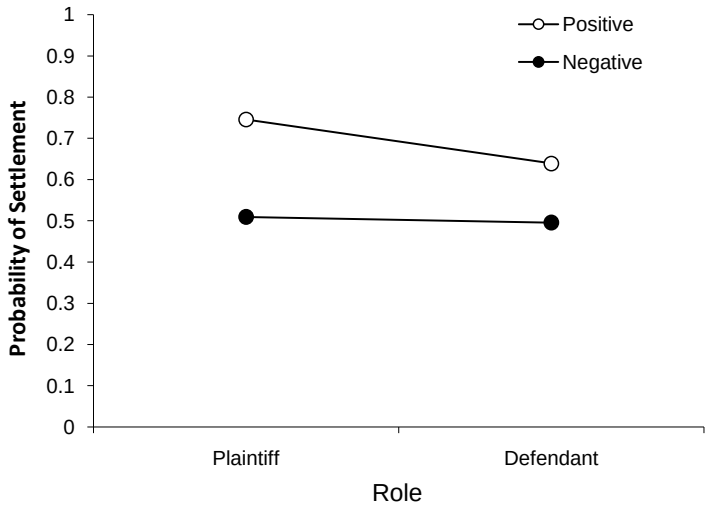

Figure 11: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across scenarios for Study 2.

Subjective Probability of Winning

In this study, participants were told they had a 40-60% chance of winning in court (compared with 50% in Study 1), which seems to have had only a limited affect on subjective estimates. Independent t-tests were conducted between Study 1 and Study 2 probability estimates to confirm this. The analyses reveal only two significant results: for positively framed plaintiffs in scenario 1 ($p = .035$) and negatively framed plaintiffs in scenario 2 ($p = .023$). However, the effect size for these differences are very small ($\eta^2 = .033$ and .039, respectively). Thus, it seems likely that these results are simply an artefact of the larger number of observations. It is worth noting, however, that in all cases, the variance of the probability estimates in Study 2 were

less than those in Study 1 (as demonstrated by the standard deviations and several significant results for Levene's Test for equality of variance). Thus, while the experimental manipulation did not alter the mean or the range (both experiments yielded the full range from 0 to 100%), it does seem to have provided some anchoring for the estimates.

Reservation Price

Analysis revealed that 138 participants (accounting for 220 out of 864 observations) were inconsistent on at least one occasion when reporting their reservation prices. Plaintiffs were considered inconsistent if they reported a reservation price above $10,000 but accepted the subsequent $10,000 settlement offer, or if they had a minimum price below $10,000 and subsequently rejected the offer. Similarly, defendants were considered inconsistent if they rejected the settlement offer after stating their maximum price was above $10,000, or if they accepted the offer when their maximum price was below $10,000. There appears to be no systematic effect of scenario or condition on the proportion of inconsistencies.

One explanation for the relatively high proportion of inconsistencies is that participants were providing estimates that were more representative of their expectations than their actual reservation prices. This idea is supported by the positive and negative correlations between subjective probability estimates and reservation price for plaintiffs and defendants, respectively. That is, as plaintiff's subjective probability of winning in court increases, so does

the minimum price they will accept ($r = .223$, $p < .001$). Conversely, as defendants become more confident of winning in court, the maximum they are willing to pay decreases ($r = -.316$, $p < .001$). The possible effects of expectations on decision making will be considered in the discussion below at 3.2.3.

The average reservation prices for each role/frame condition for each scenario are presented in Figure 12. This Figure shows that the average reservation price for plaintiffs ($M = \$14,631$, $SD = \$11,578$) was higher than that for defendants ($M = \$10,723$, $SD = \$7,269$) creating a negative settlement window of approximately $3,900. Furthermore, there is only a small and intermittent effect of frame (other than for defendants in scenario 2) and the difference is usually in the opposite direction of that predicted by prospect theory.

3.2.3 Discussion

As previously mentioned, the main results of this study will be discussed in combination with those of Study 1 (below at 3.3). However, the data on reservation price is unique to this study and will now be considered. Reservation prices determine the settlement window within which parties can negotiate. A positive window should indicate a high rate of settlement, while a negative window predicts impasse. The overall settlement window in this study was negative, however there was still a relatively high settlement rate (approximately 60%, depending on condition). This, combined with the

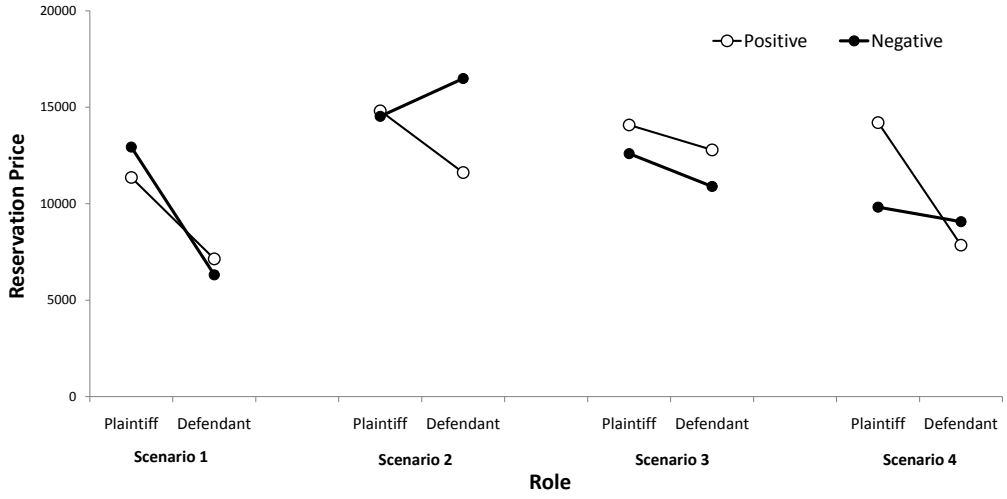

Figure 12: Average reservation price as a function of role and frame for each scenario.

willingness to violate the reservation price, suggests that participants were indicating a figure more representative of their expectations than their actual bottom line. This hypothesis appears to fit the data, given the positive and negative correlations between subjective probability and reservation price for plaintiffs and defendants, respectively.

According to Babcock, Farber, Fobian, and Shafir (1995), expectations regarding adjudicated outcomes are critical both to the setting of reservation prices, and to how the negotiation proceeds. Blount-White and Neale (1994) suggested that reservation price and expected price operate together to define an individual's aspiration zone.[4] Blount-White and Neale (1994) defined the aspiration point as "the highest valued outcome at which the negotiator

[4]In this context there is little distinction between 'expectation' and 'aspiration'.

places some non-negligible likelihood that that value would be accepted by the other party" (p.305). The aspiration point is therefore not a true limit (a better offer would likely be accepted), but a practical one. Thus, for a plaintiff, the reservation price defines the lowest acceptable settlement, while their expectation defines an upper 'limit'. Conversely, for defendants the reservation price determines the maximum acceptable settlement, while their aspiration point defines the lower bound. An individual's offers are expected to be constrained between these two limits. Furthermore, Blount-White and Neale (1994) suggested that high aspiration prices can cause impasse, even when a positive settlement window exists. They argued that aspiration price acts as an anchor, which negotiators are reluctant to move too far from, causing asymmetries in the bargaining process.

This 'aspiration' hypothesis is also consistent with the data as it explains the inconsistencies caused when a participant accepted a settlement offer that left them worse off than their reported 'reservation price'. For example, consider the case where a plaintiff accepts the $10,000 settlement offer after stating that their reservation price was $12,000. Interpreting this figure instead as an aspiration price removes the inconsistency by allowing for the possibility of an actual but unknown reservation price, presumably below $10,000. Thus, the offer falls within the aspiration zone (as defined above) and is therefore accepted. A similar analysis can be applied to the defendant who accepts the settlement offer after stating a 'reservation price' below $10,000. Re-interpreting the indicated reservation price as an aspi-

ration price explains approximately 60 percent (131 of 220) of the observed inconsistencies. It therefore seems likely that this is the appropriate interpretation of the data, and will be considered further in the studies on simulated negotiations (Chapter 4).

3.3 Re-Analysis of Studies 1 and 2

The data for this analysis came from the 408 participants presented in studies 1 (n=192) and 2 (n=216). They were aged between 16 and 49 (M = 19.6, SD = 4.03) and were randomly assigned to one of four groups within each of the two studies. No participant responded to the questionnaires in both Studies 1 and 2.

As noted in previous sections, Studies 1 and 2 differed slightly in their methodology. With reference to the data under consideration, there were three relevant differences. As will now be discussed, these differences may account for some minor discrepancies between the two data sets. Where appropriate, the following analyses highlight these differences between the two data sets.

The first and most obvious distinction between the studies was the mode of presentation. Study 1 was presented via paper and pencil test, while Study 2 was presented online. While this is not expected to have any affect, the possibility cannot be eliminated. Secondly, the scenarios in Study 1 described the chance of winning as 50%, while Study 2 stated that participants had a

'40-60% chance of winning in court'. As discussed above in section 3.2.2, it appears that this change has had little effect, other than to slightly anchor the estimates of Study 2, compared with Study 1. Finally, and perhaps most importantly, participants were asked to provide their subjective probability of winning at different stages in the decision making process. In Study 1, participants were asked to consider their chance of winning after responding to the settlement offer. Alternatively, in Study 2 participants were presented this question before being made aware of the settlement offer. The possible impact of this difference has been considered above in section 3.2.

3.3.1 Results and Discussion

Figure 13 shows the proportion of accepted settlements averaged over scenario as a function of study, legal role, and frame. The pattern of results is similar to those found by Gilliland and Dunn (2008) in experiment 1. The data were analyzed using logistic regression with factors of study, scenario, role, and frame. This revealed a significant effect of frame, $\chi^2(1) = 64.05$, $p < .001$, and, in contrast to Gilliland and Dunn (2008), a significant effect of role, $\chi^2(1) = 10.55$, $p = .001$. The interaction between scenario and role was also significant, $\chi^2(3) = 199.62$, $p < .0001$, as in Gilliland and Dunn. However, there was also a significant interaction between scenario and frame, $\chi^2(1) = 14.21$, $p = .003$. No other main effects or interactions were significant.

Figure 14 shows the pattern of results for each scenario and reveals the

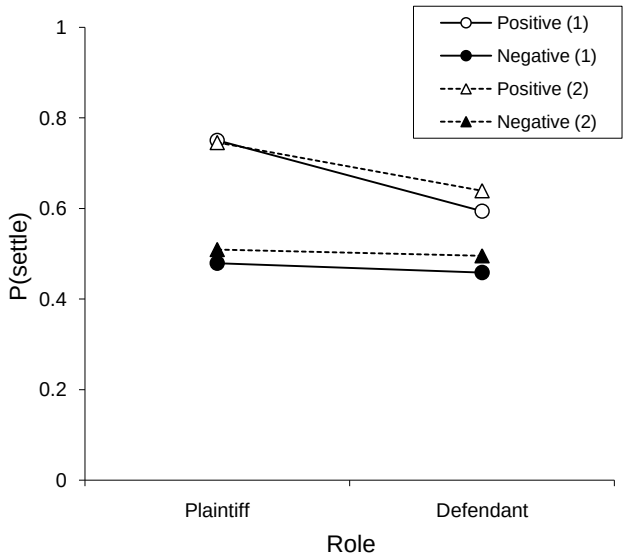

Figure 13: Proportion of settlement acceptances as a function of Study (1 vs. 2), legal role and frame, averaged over scenarios.

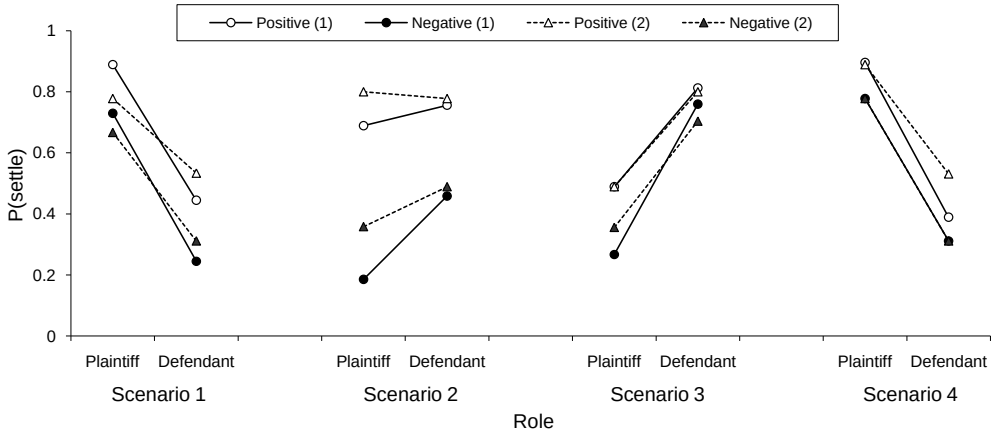

Figure 14: Proportion of settlement acceptances as a function of Study (1 vs. 2), legal role and frame, for each scenario.

variable effect of role and frame across the four scenarios. Separate analyses of questionnaire type, role, and frame for each scenario revealed that the effect of frame was significant in all four scenarios, $\chi^2(1) = 13.13$, 63.12, 7.50, and 9.96, respectively. In each case, a positively framed litigant was more likely to settle than a negatively framed litigant. In contrast to Gilliland and Dunn (2008), the effect of role was significant ($p < .02$) in all four scenarios, $\chi^2(1) = 61.31$, 6.60, 58.72, and 88.34, respectively. Plaintiffs were more likely than defendants to settle in scenarios 1 and 4, and less likely to settle in scenarios 2 and 3. No other effect was significant ($p < .01$) in any scenario.

Despite being informed that there was always the chance of winning at trial (an average of 50%), participants provided a wide range of estimates for what they believed to be the actual chance. Figure 15 shows the average subjective probability of losing at trial as a function of questionnaire type, role, and frame for each scenario. These estimates covered the full range from 0 to 1 and were approximately normally distributed with an overall mean of 0.476 and a standard deviation of 0.197. Analysis of variance revealed a main effect of frame, $F(1, 1600) = 7.81$, $MSE = 2166.1$, $p = .005$, with a positive frame leading to a greater subjective probability of losing than a negative frame ($M = 0.488$ and $M = 0.465$, respectively). There was also a main effect of role, $F(1, 1600) = 60.39, MSE = 16742.1$, $p < .001$, with plaintiffs perceiving themselves as having a greater chance of losing than defendants ($M = 0.509$ and $M = 0.444$, respectively). As Figure 15 also shows, the interaction between scenario and role was highly significant,

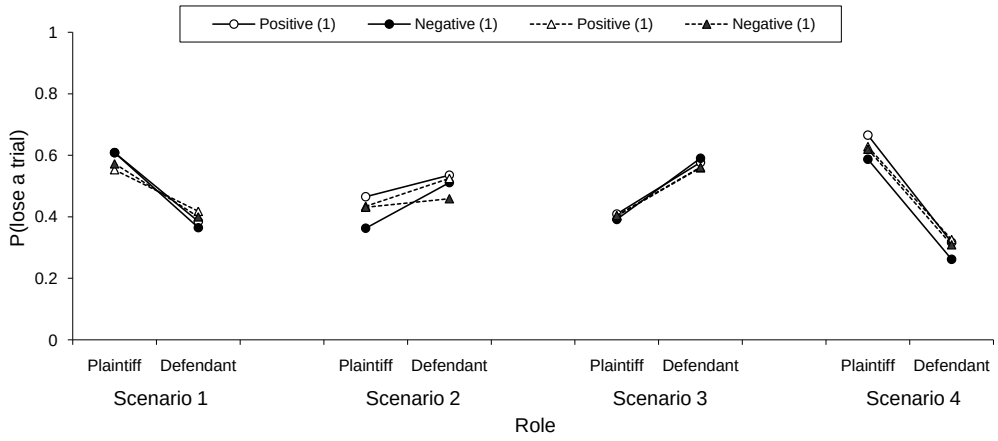

Figure 15: Average subjective probability of losing at trial as a function of Study, legal role and frame for each scenario.

$F(3, 1600) = 188.85$, $MSE = 52360.6$, $p < .001$. No other effects were significant.

As was illustrated in Study 1, the re-analysis also revealed evidence of a self-serving bias - the propensity for individuals in a given role to overestimate their probability of winning at trial. In order to investigate this, the defendant's subjective probability of losing was converted into the subjective probability of winning which corresponds to the defendant's subjective probability that the plaintiff should lose. Any effect of role in the analysis of these data would indicate a self-serving bias (or its opposite). Analysis of variance revealed such a main effect, $F(1, 1600) = 32.0$, $MSE = 8871.3$, $p < .0001$, with plaintiffs estimating their chance of losing as being less than that estimated by defendants ($M = 0.509$ and $M = 0.556$, respectively).

There was also a small but significant interaction between role and frame, $F(1, 1600) = 7.81$, $MSE = 2166.1$, $p < .01$, with frame affecting plaintiffs' perceived chances of losing ($Ms = 0.527$ and 0.489 for positive and negative frames, respectively), while having little or no effect on defendants' perceived chance of the plaintiffs losing ($Ms = 0.558$ and 0.553 for positive and negative frames, respectively).

It is clear from a comparison of Figure 14 and Figure 15 that variability in the effect of role on the probability of accepting a settlement across scenario is strongly related to corresponding variation in the subjective probability of losing at trial. For both plaintiffs and defendants, a high perceived chance of losing at trial is correlated with an increased chance of accepting the settlement offer. In order to test this hypothesis more formally, the data from Studies 1 and 2 were re-analyzed using subjective probability of losing (or winning) as a covariate. This revealed, as expected, that perceived probability of winning is a very strong predictor of settlement, $\chi^2(1) = 533.5$, $p < .0001$. Furthermore, once variation in subjective probability has been controlled for, the main effect of role is completely eliminated, $\chi^2(1) = 0.03$, $p = .873$. In contrast, the effect of frame remains significant, $\chi^2(1) = 68.78, p < 0.0001$, as is the interaction between frame and scenario, $\chi^2(3) = 11.06$, $p = .011$. There is now a significant main effect of scenario, $\chi^2(3) = 8.67, p = .034$, and the interaction between scenario and role, while much reduced, remains statistically significant, $\chi^2(1) = 18.9$, $p < .001$.

Analysis of the individual scenarios revealed a similar pattern, with sub-

jective probability highly significant ($p < .001$) in all scenarios. When the effect of this covariate is removed, the effect of frame remains significant ($p < .01$) in three of the four scenarios, $\chi^2(1) = 14.68$, 54.2, 10.37 and 6.58, respectively. The effect of role, while still significant ($p < .01$) in two of the four scenarios, was substantially reduced, $\chi^2(1) = 6.65$, 0.10, 9.10 and 4.96, respectively. The interaction between role and frame is not significant ($p < .01$) in any scenario.

The effects of role, frame, and perceived chance of losing

It is possible to combine the results of Studies 1 and 2 in a single figure that demonstrates the effects of role, frame, and perceived chance of winning on the probability of accepting the settlement offer. According to prospect theory, the offer will be accepted if its subjective value is greater than the subjective value of going to trial. An individual in a positive frame, whether plaintiff or defendant, should therefore settle if,

$$w(1).v(\$10,000) > w(p).v(\$20,000) + w(1-p).v(\$0)$$

where $v(\cdot)$ is a subjective value function that takes a quantity (money in this case) as its argument, and $w(\cdot)$ is a weighting function applied to the subjective probability of winning at trial, p. According to Kahneman and Tversky (1979), people tend to assign greater weight or importance to probabilities close to zero and relatively less importance to probabilities close to one. A

similar equation can be written for an individual in a negative frame. In this case, such an individual should settle if,

$$w(1).v(-\$10,000) > w(p).v(-\$0) + w(1-p).v(-\$20,000)$$

In other words, they will settle if the perceived value of the settlement offer is greater than the expected value of going to trial. This, in turn, is determined by the weighted subjective probability of winning at trial, and losing nothing, and the weighted subjective probability of losing at trial and losing the full amount.

In Studies 1 and 2, the objective values of the settlement offer, \$10,000, and the award, \$20,000, were both fixed. According to prospect theory, the subjective values of these quantities are therefore also fixed for a given individual. Assuming that these values are also fixed across individuals, after re-arranging the terms in the above equations,[5] for an individual in a positive frame, the settlement offer will be accepted whenever,

$$w(p) < v(\$10,000)/v(\$20,000) = r_{+}$$

while for an individual in a negative frame, the offer will be accepted whenever,

$$w(1-p) > v(-\$10,000)/v(-\$20,000) = r_{-}$$

[5]The null term in each equation falls out since, according to prospect theory, $v(0) = 0$. It is further assumed that $w(1) = 1$.

As Figure 15 shows, the average subjective probability of losing at trial varies across the set of conditions defined by the levels of role, frame, and scenario. It is assumed that within each such condition, subjective probability is approximately normally distributed with a mean and standard deviation corresponding to the observed mean and standard deviation for that condition. Assume, as a first approximation,[6] that $w(p) = p$. In this case, the above two equations can be expressed in terms of the subjective probability of losing, $q = 1 - p$. Thus, an individual in a positive frame should settle whenever $q > 1 - r_+$, and an individual in a negative frame should settle whenever $q > r_-$, from which it follows that if $(1 - r_+) < r_-$ then a framing effect will be observed.[7] According to prospect theory, the value function $v(\cdot)$, is concave for gains and convex for losses which means that $r_+ > 0.5$ and $r_- > 0.5$. Therefore, prospect theory predicts that $(1 - r_+) < r_-$.

Figure 16 illustrates the proposed relationship between framing, subjective probability of losing at trial, and the probability of accepting the settlement offer. The distribution indicated by a dashed line describes the probability of losing at trial in a positively framed condition of the present experiment. The distribution indicated by a solid line describes the probability of losing at trial in a negatively framed condition corresponding to the same scenario, role, and questionnaire type. The distributions are shown as

[6]Similar results obtain if alternative weighting functions are assumed.

[7]It should also be noted that a framing effect may also be observed if the subjective probability of losing in a positive frame is greater than the subjective probability of losing in a negative frame. Such a difference emerged in the present Studies and made a small contribution to the overall framing effect that was observed.

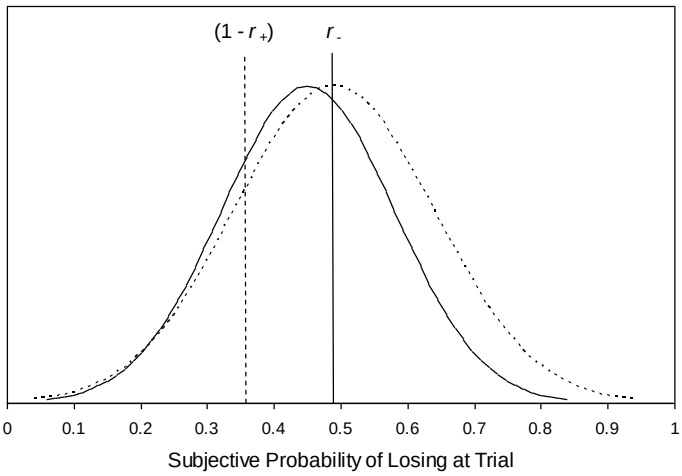

Figure 16: Hypothetical distributions of the subjective probability of losing at trial in relation to settlement criteria for positively framed (dashed line) and negatively framed (solid line) judgments. The probability of settling in each distribution is given by the area to the right of the corresponding criterion, $(1 - r_+)$ for positively framed judgments and r_- for negatively framed judgments.

being slightly different to accommodate the finding that the perceived chance of losing was greater when in a positive frame than when in a negative frame. The variances of the two distributions may also differ. The two vertical lines correspond to the criteria, $(1 - r_+)$ and r_-, defined above.

According to the proposed model, the probability of accepting the settlement offer in the positively framed condition is equal to the area under the corresponding distribution to the right of the positive criterion, $(1 - r_+)$. Similarly, the probability of accepting the settlement offer in the negatively framed condition is equal to the area under the corresponding distribution

to the right of the negative criterion, r_-. For the purposes of fitting this model, it was assumed that subjective probability was normally distributed within each condition, defined by a unique combination of questionnaire type, scenario, role, and frame, and that the two criteria, r_+ and r_-, were independently normally distributed with a constant standard deviation across conditions. This has the effect of augmenting the variance of each distribution of subjective probability in each condition by a fixed amount.[8] Let m_i and s_i be the mean and the augmented standard deviation of the subjective probability of losing at trial for condition i. Let P_i be the probability of accepting the settlement offer in condition i, and let $\Phi(.)$ be the normal cumulative distribution function. Then, for positively framed conditions, $P_i = \Phi((1 - r_+ - m_i)/s_i)$, while for negatively framed conditions, $P_i = \Phi((r_- - m_i)/s_i)$.

Figure 17 shows the observed probability of accepting the settlement offer as a function of the subjective probability of losing at trial for each combination of role, frame, scenario, and questionnaire type. The model fit the data reasonably well, $\chi^2(29) = 40.97$, $p = .069$, although, as Figure 17 shows, there are features of these data that it fails to capture. Figure 17 also shows two curves corresponding to functions that approximate the fitted model. For these functions, displayed for illustrative purposes only, the variance was constrained to be constant across all conditions (i.e., $s_i = s$ for all i). Since

[8]The augmented variance is simply the sum of the observed variance and criterion variance.

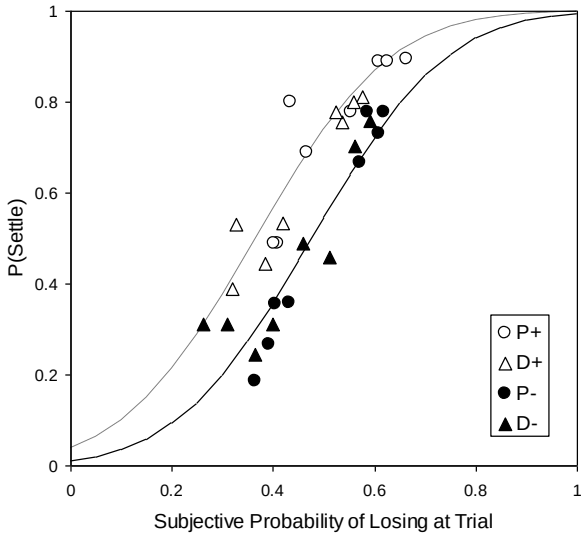

Figure 17: The probability of accepting the settlement offer as function of role, frame, and the subjective probability of losing for each scenario and Study. The dashed line shows the best fitting constant variance function for positively framed conditions. The solid line shows the best fitting constant variance function for negatively framed conditions.

variance estimates did not differ substantially between the different conditions, these functions also fit the data quite well. The dashed line corresponds to positively framed conditions while the solid line corresponds to negatively framed conditions derived from the best fitting maximum likelihood estimates of r_+ and r_-, respectively. These values were found to be 0.634 and 0.475, and according to the derivations given above, may be interpreted as the relative value of a gain or loss of \$10,000 compared to a similar gain or loss of \$20,000. The values that were obtained indicate that for this sample of participants and conditions, a gain of \$10,000 is perceived as equivalent to

63.4% of a gain of $20,000 while a loss of $10,000 is perceived as equivalent to 47.5% of a loss of $20,000. The estimate of r_+ is thus consistent with prospect theory which proposes that the subjective value function is negatively accelerating for gains. The estimate for r_- is not as consistent since it is less than 0.5 and thus indicates a negatively, rather than positively, accelerating value function for losses. However, the estimate is very close to 0.5 and, if the true value is slightly greater than 0.5, this would be consistent with the proposal from prospect theory that the value function for losses is both positively accelerating and relatively steeper (i.e. accelerating less) than the value function for gains.

Figure 17 also illustrates two additional effects. First, it demonstrates the general trend for participants to become less risk taking as their subjective probability of losing increases. This agrees with both prospect theory and commonsense - if you think you are going to lose at trial then, if you are the defendant, you are more likely to pay a relatively higher sum to settle and, if you are the plaintiff, you are more likely to accept a relatively smaller sum to settle. Yet these results directly contradict the conclusion reached by van Koppen (1990) that litigants become more risk taking as their subjective probability of losing increases. The present finding is also inconsistent with Guthrie (2000), who proposed that risk preferences are a function of only role and the probability of losing.

The second effect shown by Figure 17 concerns the relative effects of framing and legal role. One of the principal results of the present Study is that

while there is a consistent effect of framing on the probability of accepting the settlement offer across all scenarios, there is no overall effect of role. However, that being said, there remains a significant interaction between role and scenario, even after accounting for differences in the perceived chance of losing. As the data shown in Figure 17 suggests, there may be a residual effect of role in different scenarios. In this case, role may interact in idiosyncratic ways with the contents of the particular case to affect propensity to settle independently of the perceived chance of losing. This appears to be most apparent in Figure 17 in relation to the two data points corresponding to D-. These points both relate to Scenario 4 and suggests that there is something about the content of this scenario that encourages defendants to settle over and above the effects of framing or the perceived chance of losing. There is no obvious explanation for this particular effect.

3.3.2 Conclusions

The principal result of this analysis is that the likelihood of accepting an offer to settle out of court is determined by two factors; the frame or reference point from which the offer is evaluated and the subjective probability of losing (or winning) at trial. This is the first Study that examined the effect of frame independently of role and helps to clarify the results of earlier studies of decision making by litigants. In two studies involving over 400 participants, plaintiffs and defendants were equally susceptible to framing manipulations, a result that is inconsistent with the view that plaintiffs are

always risk-averse and defendants are always risk-seeking. Although it may very well be the case that plaintiffs will tend to adopt a gain frame and defendants similarly a loss frame, the present results suggest that this is not immutable and that some latitude exists to re-frame the respective parties. In so doing, the likelihood of reaching a settlement may increase, particularly if the defendant can be induced to adopt a positive or gain frame. It is important to note, however, that no attempt was made in the present Study to place plaintiffs and defendants in different frames within the same dispute. Rather, individuals were asked to evaluate a fixed settlement offer in each of the two roles. To pursue this question further, it would be necessary to place plaintiffs and defendants involved in the same dispute into different frames in a manner analogous to similar work in the area of two party price negotiations (see for example Neale & Bazerman, 1992).

It was possible to manipulate frame relatively easily in these experiments as the participants were all involved in simulated legal disputes. As is the problem with most applied research conducted in the laboratory, it is unclear the extent to which participants took on the roles they were given, and how easy it would be to manipulate frame in real disputes. It is also unclear what effect the instruction to disregard legal fees had on participants and how this might be different for real litigants.

3.4 Summary of Studies 1 and 2

The aim of Studies 1 and 2 was to apply Kahneman and Tversky's prospect theory to litigation based on the same formulation as the Asian disease problem. The results of these studies are consistent with those found by Gilliland and Dunn (2008, experiment 1), illustrating that role and frame are independent constructs. Furthermore, these studies build on previous findings by showing how beliefs about subjective probability of winning, moral justification and reservation prices influence a litigant's decision making process.

Study 1 largely replicated the findings of Gilliland and Dunn (2008), in that positively framed litigants were more likely to settle than their negatively framed counterparts. The results further demonstrated how participants' beliefs about their chances of winning in court varied significantly from the objective estimates provided. Estimates of subjective probability revealed a high degree of agreement between participants, regardless of their role/frame condition, which was only slightly influenced by a self-serving bias. Furthermore, Study 1 revealed that the role effect is largely attributable to a litigant's subjective probability of winning. Study 1 also investigated the role of moral justification and found that there is a significant relationship between subjective probability and beliefs about moral justification. This suggests that participants perceived an inherent link between morality and the law, however further research is required to investigate this further.

As well as seeking to overcome a potential confound caused by order

effects, Study 2 supported the findings of Study 1 and also investigated the reservation price of plaintiffs and defendants prior to the commencement of negotiations. Analysis of these data suggest that participants respond to this question in a manner more indicative of their expectations than their actual 'bottom line'. Nevertheless, these data revealed a sizeable negative settlement window between plaintiffs and defendants, with no clear effect of frame.

In combination with Gilliland and Dunn (2008, experiment 1), Studies 1 and 2 provide strong evidence that it is possible for plaintiffs and defendants to adopt both positive and negative frames. This finding is contrary to previous literature, such as van Koppen (1990), Rachlinski (1996) and Korobkin and Guthrie (1994), which can be shown to rely on an incomplete application of prospect theory to litigation. This body of research has also failed to implement an adequate representation of reference point adoption and to consider how this effects frame. Studies 1 and 2 have overcome this by explicitly emphasising the pre and post-incident position in order to create both positive and negative frames for both plaintiffs and defendants.

Studies 1 and 2 are based on the one-shot scenario evaluation experimental paradigm. This methodology is useful as it provides a good means of testing theoretical assertions as it maximises experimental control. However, as is often the case, this control comes at the cost of external validity. It is an obvious criticism of this methodology to suggest that participants are not adequately engaged in what is a fairly contrived task, and that therefore

the results may not reflect the processes involved in real settlement negotiations. For this reason, having considered the theoretical question (role and frame do appear to be independent constructs), the next chapter will examine whether this finding can be replicated in a more realistic environment: simulated negotiations.

Chapter 4

Simulated Negotiations

4.1 Introduction

The effect of framing has been explored extensively in negotiation research, especially in the fields of two-party price negotiation and managerial conflicts (referred to for ease as 'organisational conflict'). Findings in this area have mostly been based on the results of simulated negotiations, which are more engaging and realistic than scenario evaluations, but still maintain a degree of experimental control. While there are a few studies which have explored the process of litigation generally through simulated negotiations, to my knowledge none of these have considered framing and litigation within this paradigm. Thus, this chapter presents two studies which represent a first attempt at exploring this issue. Given that there is no direct body of research from which to draw predictions, the following review will consider

framing effects in different forms of bargaining and also the general findings on litigation in simulated negotiations.

4.1.1 Organisational Conflict

Similar to the approach taken in Studies 1 and 2, the literature on organisational conflict has sought to distinguish the effects of role and frame. The findings on each construct will now be reviewed.

Frame

One of the first studies to consider the effects of framing during live negotiations was conducted by Neale and Bazerman (1985).[1] It centred on an industrial dispute in which participants, assigned the role of a management representative (the union representatives were confederates), were asked to negotiate a five-issue contract. The issues for negotiation were vacation pay, health insurance, wages, paid sick leave and an increased hourly wage for night shifts.

The framing manipulation was implemented through the use of reservation prices. That is, before the negotiation commenced, participants were given a list of settlement points which the company they were representing would find acceptable (i.e. reservation prices, although they were not defined as such). Positively framed participants were told that any improvement on

[1]This study also considered the effects of overconfidence, however those results are not of direct relevance to this thesis.

those points would be a gain for the company, while negatively framed negotiators were informed that anything less than those points would represent a loss for the company. Once the negotiation commenced, participants had twenty minutes to secure the best contract possible. Confederates adopted a strategy of reciprocal concessions in order to ensure consistency. Participants were informed that impasse would result in arbitration.

The results of this experiment suggest that framing significantly influences negotiator behaviour. Neale and Bazerman (1985) reported that negatively framed negotiators demonstrated little concessionary behaviour. Conversely, positively framed negotiators implemented more successful outcomes, where success was measured by the number of issues resolved, the monetary value of the negotiated contract and the negotiators' perception of the fairness of the contract.

In a similar experiment, Bazerman, Magliozzi, and Neale (1985) found that positively framed negotiators completed more transactions and finished with a higher net profit than their negatively framed counterparts in an open-market environment (participants could negotiate with as many different parties as they were able within the designated time period). This study had no transaction costs and due to the open-market context there were no negative consequences to impasse. Thus it can be seen that positively framed negotiators generally outperform their negatively framed counterparts. This proposition has been further supported by numerous other studies using a similar methodology, including Neale and Bazerman (1992); Neale, Huber,

and Northcraft (1987) and De Dreu, Carnevale, Emans, and Vliert (1994), and are considered to be reliable effects (Carnevale & Pruitt, 1992).

According to Bottom and Studt (1993), there are a number of studies (see for example Schurr, 1987) which have found that positively framed negotiators will sometimes exhibit less concessionary and more competitive behaviour than their negatively framed counterparts. These findings appear to be inconsistent with both the previous literature and with prospect theory itself. However, Bottom and Studt (1993) explained that these findings are the result of a particular set of circumstances which cause risk averse negotiators to prefer the alternative to settlement. That is, positively framed negotiators will prefer not to settle when there is a possibility the negotiated agreement will leave them worse off than the certain alternative. This is the situation that arises when settlement is associated with uncertainty, but impasse is not.

Bottom and Studt (1993) provide the example of the sale of land containing a mineral deposit. The size (and therefore the value) of the deposit cannot be known in advance of the purchase. Given this uncertainty, a risk averse negotiator may be inclined not to settle, to avoid the risk of purchasing land with only a minimal deposit that could leave them worse off than if they had not acquired the land. They are therefore likely to demand a price that is less than the expected value of the land. The opposite is true of a risk-seeking negotiator, who will, in these circumstances, prefer settlement over impasse. This explanation is consistent with both the data and the

theoretical framework provided by prospect theory.

Importantly, such a situation will not arise in litigation - the consequence of impasse (trial) will always be uncertain. Thus, the predictions of framing for litigation are unaffected by this apparent 'inconsistency'. That is, based on the literature presented, positively framed litigants should be risk averse and will exhibit more concessionary behaviour, and are more likely to settle than their negatively framed counterparts.

Role

One of the first studies to consider the relationship between role and frame was Neale and Bazerman (1985, details of the experiment are above at 4.1.1). In the context of an industrial dispute, they suggested that as unions are generally advocating improved conditions, they may naturally adopt a gain frame. While this was not articulated, Neale and Bazerman (1985) implicitly assumed that negotiators would adopt the status quo as their reference point. Alternatively, given management are often required to make concessions to union demands they may tend to adopt a negative (loss) frame.

This issue was further explored by Bazerman et al. (1985), whose open-market experiment asked buyers and sellers to negotiate a three-issue contract. Despite role information being completely symmetrical, the researchers found that the allocation of the term 'buyer' or 'seller' influenced performance. Specifically, buyers outperformed sellers in terms of quality and quantity of settlements completed. The authors suggested that this could

be due to perceived market power on behalf of the buyers, even though the symmetrical nature of the design meant there was no objective power differential. This effect was also observed by Neale and Northcraft (1986) and Huber and Neale (1986).

Neale et al. (1987) conducted an experiment to try and unravel the difference between role and frame. Like Bazerman et al. (1985), Neale et al. suggest that role operates in a similar way to frame, by emphasising gains and losses differently. They explored this issue through a series of simulated negotiations, where some negotiating pairs were given role information (buyers and sellers) and others were not. Participants in the role-present condition were told they were buyers (sellers) and that they were to negotiate a three-issue contract regarding the purchase (sale) of a refrigerator. In the role absent condition participants were given an alien cover-story, and were assigned the role of either 'Phrably' or 'Grizzat'. They were asked to negotiate an application for land (which required a partnership agreement) based on the three issues of 'slatkins', 'drigglers' and 'finmals'.

The results of this experiment suggest that role and frame are independent and that both can affect the negotiated outcome. That is, positively framed negotiators completed more transactions than their negatively framed counterparts, independent of the presence or absence of role information. There was also an interaction between role and frame: mean profitability was influenced by frame only when role information was absent. When role information was present, profitability was not affected by frame. Thus, the findings

from this body of literature support the assertion that frame is not determined by role, and can therefore be independently manipulated to influence the outcome of a negotiation. However, as it is difficult to imagine a legal scenario where parties will not know whether they are plaintiff or defendant, it could be that any effect of frame is over-shadowed by role information.

Implications for Litigation

It is not difficult to see the similarities between negotiation in an organisational environment and litigation. However, as discussed (above at 1.1.2), litigation is a form of crisis bargaining and is therefore structurally distinct from other forms of conflict. In relation to the literature just reviewed, there are three key distinctions: the consequences of impasse, exclusivity of the parties and the number of issues under examination.

As identified in the crisis bargaining literature, one of the main differences between negotiations under normative and crisis conditions are the consequences of impasse. As with all forms of crisis bargaining, impasse in litigation is resolved by intervention from a third party which is uncontrolled, uncertain and often costly to both parties. In contrast, many of the studies reviewed on organisational conflict have no real consequences of impasse, other than perhaps the time delay before an alternate arrangement can be made. An exception to this was Neale and Bazerman (1985), which incorporated an option for arbitration for negotiators who could not come to an agreement. Arbitration is similar to a trial to the extent that the outcome is

determined by a third party and is legally binding. As discussed, the results of that experiment do not differ significantly from other findings with regard to the effect of frame. This suggests that the literature on organisational conflict can provide a basis upon which to make some tentative predictions about litigation.

A separate but related distinction between organisational conflict and litigation is negotiator selection and exclusivity. That is, many of the studies reviewed above (such as Bazerman et al., 1985; Neale et al., 1987) simulate open-market conditions. This means that if agreement does not appear likely, negotiators (generally designated as buyers and sellers) can move freely between partners with little effort or cost. This is not the case in litigation. Plaintiffs and defendants are obliged to negotiate exclusively with each other, despite having little or no common ground. Indeed, litigation often arises because of this very situation. Thus, it is expected that litigation may vary from the patterns observed in two-party price negotiations.

The final distinction between organisational conflict and litigation is the use of multi-issue contracts. As stated, many of the simulations in this area ask participants to negotiate three or even five issue-contracts. Such a process allows negotiators to differentially weight the value of each issue (whether based on their own determinations or those built into the experimental design). This encourages parties to negotiate in a more co-operative and integrative fashion and makes the process less adversarial in nature. That is, if a particular negotiator is more concerned about maximising issue

A and places less value on issue B, they can concede on B in exchange for a more favourable outcome on A.

This form of concession is rarely available in litigation. Even if they do not start out that way, law suits are ultimately about money. While there are other remedies available from the courts (such as injunction, orders for specific performance and rescission of contract) these are generally accompanied by monetary claims. Thus, litigation is almost entirely a zero-sum game and allows little scope for integrative solutions. It seems likely that this will influence negotiator behaviour.

4.1.2 Litigation

The two experiments presented in this chapter represent the first attempt to explore framing effects in litigation using live, simulated negotiations. However, another series of experiments has used this methodology to examine other issues raised by litigation. These studies are valuable in that they suggest that this paradigm can in fact be used to explore litigation in an experimental setting.

Linda Babcock and colleagues conducted a series of experiments using simulated negotiations to explore the effect of self-serving bias in litigation (see for example Babcock & Loewenstein, 1997; Babcock, Loewenstein, & Issacharoff, 1997; Loewenstein, Issacharoff, Camerer, & Babcock, 1993). This was done using the 'Texas Tort Case' as a basis for the negotiation (for a review see Babcock & Loewenstein, 1997).

The Texas Tort Case materials were developed from a real case involving a personal injury claim following a collision between a motor cyclist (plaintiff) and a motor vehicle (driven by the defendant). The claim was for $100,000. While there were a number of experimental manipulations, the basic procedure for the negotiations was as follows. Subjects were randomly assigned to the role of plaintiff or defendant and placed into pairs. Participants were given a one-page explanation of the experiment, including the rules of the negotiation and the court costs associated with the claim. Participants were then given 27 pages of materials relating to the case. The materials were taken from the actual trial and included witness testimony and police reports.

The negotiation itself lasted for 30 minutes. Participants were paid relative to the outcome they achieved (they received $1 for every $10,000 they negotiated). Court costs increased as time went on, so that parties had an incentive to settle early. Impasse between parties resulted in a pre-determined 'judge's decision'. The settlement rates depended upon the experimental manipulations being used, but were generally in the range of 60-85 percent.

Using this paradigm, Babcock and colleagues have found evidence that a self-serving bias can cause impasse in litigation (Babcock, Loewenstein, Issacharoff, & Camerer, 1995) but that an intervention can help mitigate this effect (Babcock et al., 1997). Babcock and Loewenstein (1997) were able to provide further support for the negative impact of self-serving assessments by demonstrating that the experimental findings are consistent with real-world

data on wage negotiations for public school teachers. Thus, the relative success of these experiments suggests that simulated negotiations can be used to explore cognitive bias in litigation.

In summary, it can be seen that litigation is comparable to organisational conflict, and a similar experimental methodology can be applied to both forms of negotiation, although it is not clear that the same pattern of results will emerge. Thus, the aim of Studies 3 and 4 is to determine whether the findings from the organisational literature can be applied to litigation.

4.2 Study 3

Study 3 was conducted as a pilot for Study 4. The aim was to explore the effect of framing on litigation outcomes by transforming the scenario evaluations used in Studies 1 and 2 into simulated negotiations, similar to those used by Neale and Bazerman and colleagues (above at 4.1.1) and Linda Babcock and colleagues (above at 4.1.2). To this extent, legal scenarios (of the form used in Studies 1 and 2) were created so that participants were designated to the roles of plaintiff and defendant, in both positive and negative frames.

After reading the facts of the case, participants were paired in opposing roles and asked to negotiate a settlement. This process creates four paired conditions for the negotiations: the plaintiff and defendant could either both be positively framed (P+, D+) or both be negatively framed (P−, D−), or

pairs could contain a combination of both (P+, D− and P−, D+). As discussed in previous sections, prospect theory predicts that risk averse litigants should be more willing to settle than their negatively framed counterparts. Based on this, pairings of positively framed litigants (P+, D+) should exhibit a higher propensity to settle than the negative equivalent (P−, D−). If true, this should be evident experimentally through both the rate of settlement for each pairing, as well as the reservation prices (and therefore the settlement windows) and the amount of bargaining behaviour (number of offers) which occurs.

The exact ordering of the remaining two pairs in terms of propensity to settle is unclear, however the rate should be below P+, D+ and above P−, D−. Furthermore, the value of settlement in the P+, D− pairing should be lower than in the P−, D+ pairing. This is because a risk averse plaintiff (P+) should exhibit relatively more concessionary behaviour against a negatively framed defendant, driving the settlement price down. The opposite is true for a negatively framed plaintiff, who should demand a higher price, while a positively framed defendant should be more concessionary, pushing the settlement price upwards. This experiment seeks to investigate these issues and to consider whether litigants can be successfully re-framed during a negotiation.

4.2.1 Method

Participants

There were five groups of four participants (20 in total, 7 of which were male), recruited through the acquaintance of the researcher. The participants were aged between 20 and 56 ($M = 27.1, SD = 8.24$), and many were acquainted with each other prior to the commencement of the experiment (this data was not formally recorded).

Design

The general procedure for this study is as follows: participants were given a set of facts outlining a legal dispute, including the role (plaintiff or defendant) which they were to take on, and were paired with another participant. Each pair was then given the opportunity to negotiate a settlement. Participants were recruited in groups of four and were randomly allocated to the positions of players 1 through 4. Players negotiated in pairs, so that there were two independent negotiations taking place at once. There were three rounds of negotiations therefore allowing all three paired combinations of players. At the beginning of each round, players were allocated the role of plaintiff or defendant, and were paired with a player of the opposite role. Players negotiated with each other in the following order:

Round 1: 1 v 2; 3 v 4

Round 2: 1 v 4; 2 v 3

Round 3: 1 v 3; 2 v 4

The counter-balancing of role operated so that of their three negotiations, each player was a plaintiff at least once and a defendant at least once. The same method was used for frame, so that each player was in a positive and a negative frame at least once, although players were naive to this manipulation. A different legal scenario was used in each round (there were three in total) and the order of their presentation was counter-balanced.

Materials

Scenarios. Before commencing negotiations, participants were asked to read through a set of facts outlining a legal dispute. These scenarios were similar to those used in Studies 1 and 2, and allocated the role/frame condition in the same way. The three scenarios used, as well as the written instructions provided to participants can be found in Appendix C. As with Study 1, participants were told that they had a 50% chance of winning in court. However, instead of being told that the outcome would depend on the evidence presented, they were told that the result would depend entirely upon which judge heard the case. Participants were told that one judge was likely to rule in favour of the plaintiff, the other in favour of the defendant. It was hoped that presenting the possibilities this way would encourage participants to base their decisions on a 50% chance of winning, although partici-

pants were still asked to state their own subjective probability. Participants were also asked to record their reservation price. That is, the minimum (if a plaintiff) or maximum (if a defendant) they would accept in order to avoid court. This was presented after the subjective probability estimate was provided. Unlike Studies 1 and 2, there was no mention of a last-minute $10,000 settlement offer. As with the scenario evaluation studies, participants were asked not to consider court costs (both when answering the questions and when negotiating).

The main addition to the scenarios from the online studies was the following statement:

> 'Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.'

This statement was included both in the instruction sheet and in each scenario in an attempt to get participants to think carefully about the scenarios and to engage with them as much as possible.

Recording Negotiations. In order to make a record of their negotiations, each pair of negotiators was given a record sheet on which they recorded their role (plaintiff or defendant), their current offer, the time at

which each offer was made (each pair had a stop-watch) and any comments they wished to make to their opponent.

Procedure

This study was conducted face-to-face in the lab, with four participants and one experimenter seated around a table. Upon arrival, participants were randomly allocated a player number (1 - 4) and were asked to read an information sheet, sign a consent form and provide some demographic details (age, gender). Participants were told that they would be conducting three separate negotiations, each with a different partner and each based around a different legal dispute. They were told that for each round they would be allocated to the role of plaintiff or defendant, and paired with a player in the opposite role, who was given the same set of facts, altered only slightly to suit their perspective.

Before commencing each negotiation, participants were given the legal scenario for that round. They were given as much time as they required (usually around three to five minutes) to read the facts of the case, and to consider the questions regarding their subjective probability of winning and their reservation price. Players were informed that they did not need to adhere to their reservation price if they changed their mind during the course of the negotiation. An example scenario (the defamation dispute used in Studies 1 and 2) was given to participants in order to ensure that everyone was familiar with the task, and to provide an opportunity to ask questions.

Negotiations. Before the first round, participants were informed that each round would last for five minutes and that they must negotiate in silence, so that all correspondence was recorded on the sheets provided. Participants were instructed that they could make as many or as few offers as they liked, and that they did not necessarily need to negotiate sequentially. For example, a player could reject an offer without making a counter-offer. Pairs which reached either settlement or impasse (if players chose not to communicate any further) simply had to wait until time ran out. They were further instructed that they could make as many or as few (written) comments as they liked.

The experimenter started two stop-watches (one for each pair) at the beginning of each round. Players were asked to record the (approximate) time of each offer they made. The timers ran up to five minutes and players were given a warning when there was one minute remaining and then again with ten seconds remaining. If players were half-way through making an offer when time ran out, they were able to finish the offer and their opponent was given the opportunity to either accept or reject it.

Interventions. At the end of each five minute round of negotiations, the experimenter delivered a framing intervention to both pairs (regardless of whether or not they had settled). The cover story provided to participants was that before out-of-court settlements become legally binding, a court official must look over them and make sure that both parties are satisfied. Similarly, players who did not negotiate a settlement were told that before a dispute can proceed to trial, a court official must ensure that both parties un-

derstand the possible risks associated with pursuing a matter in court. The intervention was delivered verbally by the experimenter and attempted to either reinforce a player's existing frame, or to provide a new frame entirely. Therefore, the interventions were either positively or negatively framed (determined randomly), and their form depended on whether a pair had reached a settlement or not. If a pair had reached a settlement ($\$x$), the following form was used for a positive frame:

> You have agreed upon a settlement where the defendant will pay the plaintiff $\$x$ Before you sign the court documents which will make this contract legally binding, I need to make sure that you both fully understand the deal you have made.
>
> Plaintiff, this means that you will receive $\$x$ in compensation. Defendant, this means that you will get to keep $\$(20,000 - x)$.

The negative form was constructed by reversing the reference points in the following way:

> Plaintiff, this means that you will lose $\$(20,000 - x)$ in lost income.
>
> Defendant, this means that you will lose $\$x$.

If a pair had not reached an agreement, the following form was used for a positively framed intervention:

> You have decided to proceed to trial rather than settling this case. Before you do so, I need to make sure that you both fully understand the possible consequences of going to court. You have

> been informed that cases similar to this have been decided on a roughly equal basis.
>
> Plaintiff, if the judge rules in your favour, you will receive $20,000 in compensation; if the judge rules against you, you will receive nothing in compensation.
>
> Defendant, if the judge rules in your favour, you will get to keep the $20,000; if the judge rules against you, you will get to keep none of the money.

The negative form was constructed in the same way as above. Following the intervention, both pairs had a further three minutes to negotiate. Pairs which had settled were informed that they were able to retract their offers and re-enter negotiations. Post-intervention negotiations proceeded in the same manner as the main round, with written communication only and warnings when there was one minute and then ten seconds remaining.

During round one, players were not expecting the intervention and additional time. They were deliberately kept naïve in order to prevent them behaving as if it was simply an eight minute negotiation, rather than two distinct phases to the negotiation (as evident by comparing the results from round one to those from the subsequent rounds).

At the end of the post-intervention round, participants were told that the negotiation was finished and all materials were collected. Players then received their new scenarios for the next round and were paired with their new partners. Following the third and final round of negotiations, players were debriefed about the aims of the experiment. Each group took approximately one hour to complete all three rounds of negotiations.

4.2.2 Results

Settlement

During this study, a total of 30 negotiations were completed by paired combinations of participants, of which 16 (53.3%) resulted in a settlement. Of these settlements, nearly one third (5 out of 16) were reached prior to the intervention, in the first five minutes. Three of these pairs were in their first round of negotiations and thus were unaware that they would be given extra time. This suggests that after the first round, pairs simply used the extra time to continue negotiations, rather than viewing it as two distinct phases. There was one pair that reached a settlement prior to the intervention, but chose to re-enter negotiations after the intervention and were unable to reach another agreement within the allocated time. There was not enough data to formally consider differences between scenarios, however descriptive data for the probability of winning, the reservation prices and the number and size of settlements for each scenario are presented in Table 3.

The settlement rates for each paired combination are summarised in Table 4. As can be seen, contrary to expectations the positive pairing (P+, D+) had the lowest settlement rate (37.5%), and the negative pairing (P−, D−) had the highest (62.5%). These trends are in the opposite direction of what was predicted, however more data is required before further conclusions can be drawn.

The average negotiated settlement was $9,015, and the average agreement

Table 3: The average subjective probability of the plaintiff winning, reservation price and the number and average size of settlements for each scenario.

	Scenario			
	1	2	3	All
Chance of plaintiff win (%)	46.5	45.75	51.25	47.83
Defendant's Maximum ($)	4,800	8,000	8,400	7,067
Plaintiff's Minimum ($)	12,600	13,150	12,750	12,833
No. of settlements	6	5	5	16
Average settlement ($)	7,334	10,800	9,251	9,015

Table 4: The number of negotiations and settlements for each role/frame pair combination of negotiators, as well as the average size of the settlements and the mean number of rounds completed.

	Paired Combinations				
	P+D+	P−D+	P+D−	P−D−	All
No. of negotiations	8	10	4	8	30
Settled (%)	3 (37.5)	6 (60)	2 (50)	5 (62.5)	16 (53.4)
Settlement ($)	8,833	9,351	10,500	8,333	9,015
Rounds	6.5	7	7.75	8.13	7.27

reached by each pair combination is also summarised in Table 4. With the exception of the P+D− pair, where the average settlement was $10,500, each pair combination had an average settlement below $10,000. As participants were told not to consider legal costs in their negotiations, and each party had an equal objective chance of winning in court, the expected value of the negotiation for each player was $10,000. Therefore, an average settlement below that value suggests that the defendants were outperforming plaintiffs during the negotiations. This finding is consistent with the literature on organisational conflict, which has found that buyers outperform sellers in symmetrical negotiations (e.g. Bazerman et al., 1985, where plaintiffs and defendants can be equated to sellers and buyers, respectively). However as this was only a pilot study more data are required before any firm conclusions can be drawn.

Subjective Probability

The subjective probability of the plaintiff winning for each role and frame condition, averaged across all scenarios, is presented in Figure 18 (there is not enough data to analyse each scenario separately). As with the previous studies, individual beliefs about the subjective probability of winning varied widely, with responses ranging from 20-90%. These data were approximately normally distributed with a mean probability of a plaintiff win of 47.8%.

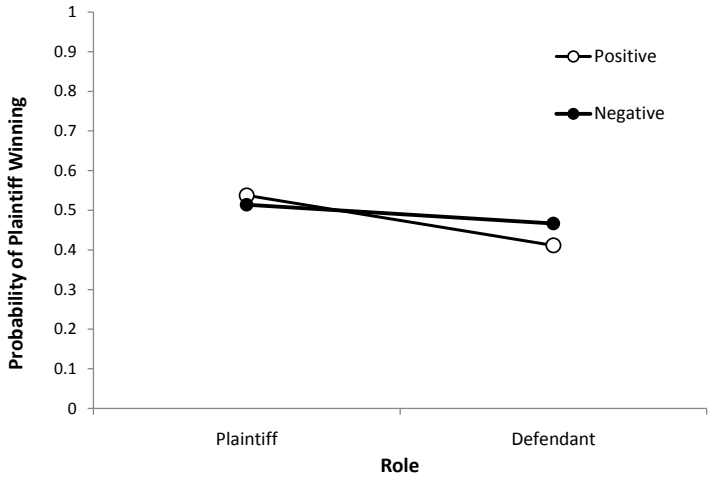

Figure 18: Average subjective probability of a plaintiff win as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across scenarios.

Reservation Price

Figure 19 shows the mean reservation price given by each condition. Positively and negatively framed plaintiffs demanded a similar minimum price ($13,250 and $12,555 respectively), which was approximately $6,000 above the maximum price both positively and negatively framed defendants were willing to pay ($7,500 and $6,416, respectively). Overall, this creates a negative settlement window (where the plaintiffs' minimum is greater than the defendants' maximum), which may partially explain the relatively low settlement rate of just over 50%. In addition to this, Figure 19 shows little to no apparent framing effect. A framing effect for reservation price should demonstrate an interaction between role and frame. That is, a positive frame

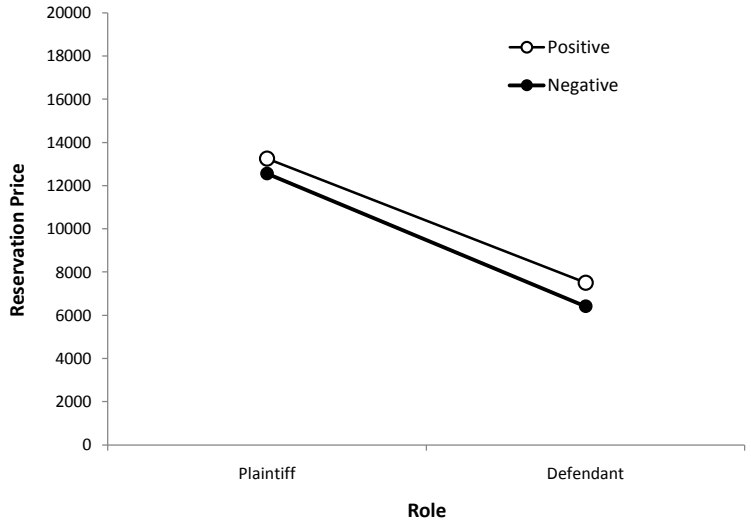

Figure 19: Average reservation price for each condition across all scenarios for Study 3.

should make both parties more risk averse (in this case resulting in a stronger desire to reach a settlement), therefore *increasing* a defendant's maximum offer while *decreasing* a plaintiff's minimum price, and vice versa for a negative frame. This pattern is not evident in Figure 19, however these results are broadly consistent with those of Study 2.

Interestingly, 80% of players (16 out of 20) were willing to violate their reservation price during the course of negotiations. A violation occurs when a player makes or accepts an offer that is below their stated minimum (if the plaintiff) or above their stated maximum (if the defendant). In total, 25 of the 60 reported reservation prices were violated during the course of negotiations, 11 of which came from plaintiffs and 14 from defendants. This

explains how pairs managed to negotiate settlements despite having negative settlement windows. These data also lend further support to the suggestion expressed in Study 2 (above at 3.2.2), that participants are reporting an amount more indicative of their expectations (aspiration price) than of their actual reservation price.

Bargaining Behaviour

Pairs completed a total average of 7.2 rounds for each negotiation (across the entire eight minutes). A round is defined as one offer and the associated yes/no response, but does not include any counter-offer which may follow. A counter-offer forms the first half of the next round, allowing for the situation where the respondent party chooses not to propose a new settlement. Negotiations that resulted in a settlement averaged approximately the same number of rounds as those that did not (7.5 versus 7 rounds, respectively). Overall, plaintiffs made slightly more offers ($M = 4.07$, $SD = 1.53$) than defendants ($M = 3.23$, $SD = 1.5$), and this difference is significant despite the small sample, $t(58) = 2.129$, $p = .037$. The number of rounds completed by each paired combination is summarised in Table 4. Consistent with the trend shown by the settlement data, the P−D− combination averaged the highest number of rounds (8.1), while the P+D+ pairing averaged the lowest (6.5). This could be indicative of a framing effect, however it is in the opposite direction of that predicted by prospect theory.

4.2.3 Discussion

Although conceived as a pilot, Study 3 revealed two important points. Firstly, it highlighted the necessity of incorporating legal costs into the decision making process. During informal post-experiment interviews, many participants revealed that the details of the dispute provided them with little motivation to accept a settlement offer. Many participants appear to have adopted the attitude that without any negative consequences (other than the verdict itself) they might as well take their chances in court. This hypothesis is supported by the data, which demonstrate a settlement rate that is significantly lower than that found in similar studies. For example, Babcock and colleagues report settlement rates which vary between 60 and 85 percent, compared with just 53 percent in the current study. For this reason, Study 4 included legal fees into the scenarios.

The second point is that participants seemed to have little trouble engaging with the task. Evidence for this comes from the length and the content of the qualitative data, provided in the form of comments accompanying the offers and responses. These data were collected purely to increase levels of engagement and interaction, with no intention to analyse it formally. However, quotes such as the following, which accompanied an offer of compensation for a dead racehorse (scenario 2), demonstrate genuine engagement in the negotiation process: "Seventeen thousand, but if you let me down, you'll end up in the same place as the horse." While this level of investment is clearly in no way comparable to that of real litigants, it is a strength of the design that

participants were enthusiastic about the task and not simply attempting to exert the minimal effort required to complete the study.

The fact that participants exhibited a high degree of engagement supports the decision to provide participants with only a brief outline of the facts, rather than more extensive materials which include detailed legal arguments and witness testimony. The negotiation dialogue in this study demonstrates that it is possible to achieve a high level of engagement without intensive preparatory material.

4.3 Study 4

As with Study 3, the aim of this experiment is to investigate the effect of role and frame during simulated legal disputes. This study introduced legal fees in order to increase the rate of settlement by creating a more realistic scenario with a more appropriate incentive structure. The introduction of court costs should make settlement appear more attractive while simultaneously increasing the risk represented by going to court. It was also thought that the low rate of settlement in the previous study could have masked any effect of framing. It is therefore hoped that this study will be a better tool for investigating these effects.

4.3.1 Method

Participants

This study consisted of 56 participants (14 groups of 4), recruited through a database for paid research participation. Participants were aged between 18 and 61 ($M = 25.3$, $SD = 8.4$) and there were 18 males. Participants were paid $12 and the experiment took approximately one hour to complete.

Materials and Procedure

This study was the same as Study 3 except that participants were asked to take into account legal fees and court costs. Participants (regardless of role or frame) were told that the cost for settling would be $2,500 each, while the cost of going to court would be $3,500 each, but distributed on a loser pays basis. For example, a plaintiff who accepted a $10,000 settlement would end up with only $7,500, while the defendant would have to pay a total of $12,500. For a plaintiff, winning in court would mean receiving $20,000, while losing would result in a $7,000 legal bill. Similarly, a defendant who wins in court would pay nothing, but a losing defendant would pay a total of $27,000. This was explained in detail to participants before the first round of negotiations, and the fee structure was consistent across all scenarios. Participants were provided with flashcards outlining the fee structure for reference during the negotiations.

The fee structure was also included in the intervention. The following is

the positively framed intervention for parties who did not reach a settlement:

> You have decided to proceed to trial rather than settling this case. Before you do so, I need to make sure that you both fully understand the possible consequences of going to court. You have been informed that the outcome of this case depends entirely upon which judge is allocated to the trial. If you do not negotiate a settlement and instead proceed to trial, each party will be charged a total of $3,500 in legal fees, which will be distributed on a loser-pays basis.
>
> Plaintiff, if the judge rules in your favour, you will receive the full $20,000; if the judge rules against you, you will receive nothing, but have to pay a total of $7,000 in legal fees.
>
> Defendant, if the judge rules in your favour, you will get to keep the $20,000; if the judge rules against you, you will keep nothing, and have to pay a total of $7,000 in legal fees.

The other versions of the intervention (positive and negative frames for parties who do and do not settle) are contained within Appendix D. Other than the introduction of legal fees, the procedure was the same as that in Study 3, as outlined at 4.2.1 above.

4.3.2 Results

A total of 84 negotiations were conducted by paired combinations of participants. Table 5 summarises the number of negotiations in each paired condition, and for each scenario. Of these negotiations, 55 (65.5%) resulted in a settlement, 35 of which were reached in the first phase of the negotiations, prior to the intervention. Not included in these figures are the four

negotiations which reached a settlement in the first phase, but chose not to maintain that agreement after the intervention.

The settlement rates for each paired combination are summarised in Table 6. As with Study 3, the positive pairing (P+D+) yielded the lowest settlement rate (52.4%). The P+D− combination had the highest settlement rate, with 72.2% of pairs reaching an agreement (in Study 3 the P−D− pair had the highest settlement rate). The difference in settlement rates between pairings is not significant, $\chi^2(3) = 2.713$, $p = .438$. As mentioned, four pairs settled prior to the intervention but reneged afterwards. These four negotiations came from each of the four pairings, and were not counted towards the final settlement rates. The overall settlement rates are higher than those of Study 3, suggesting that the introduction of court costs did encourage settlement. However, this difference did not reach statistical significance, $\chi^2(1) = 2.807$, $p = .094$.

Table 6 also summarises the mean settlement value for each paired combination. In contrast to Study 3, the settlements are all above $10,000 (except for the P−D+ combination), which suggests that the plaintiffs are negotiating better overall outcomes (as costs are the same for both parties $10,000 is still the midpoint). As with the rate of settlement, there is no significant difference between pairs for the size of the settlement, $F(3, 51) = 1.334$, $p = .274$.

The mean number of rounds completed by each paired condition (totalled across both phases of the negotiation) are also reported in Table 6. As

Table 5: Number of negotiations for each scenario and paired combination.

	Paired Combination				
Scenario	P+D+	P+D−	P−D+	P−D−	Total
1	6	3	11	8	28
2	7	9	4	8	28
3	8	6	8	6	28
Total	21	18	23	22	84

Table 6: The number and size of settlements for each role/frame pair combination of negotiators, as well as the mean number of rounds completed.

	Paired Combinations				
	P+D+	P−D+	P+D−	P−D−	All
Settled (%)	11 (52.4)	17 (73.9)	13 (72.2)	14 (63.6)	55 (65.5)
Settlement	$11,359	$8,985	$10,469	$10,036	$10,078
Rounds	9.67	9.96	8.5	8.14	9.1

with the other measures, there is no difference in the number of rounds based on pairing, $F(3, 64.311) = 0.922$, $p = .435$ (Brown-Forsythe test). Since agreement marks the end of a negotiation, a two-way ANOVA was conducted to determine whether settlement had an effect on the number of rounds for each pairing. The results show no interaction between pair and settlement, $F(3, 76) = 0.679$, $p = .567$, and no main effect of pair, $F(3, 76) = 1.471$, $p = .229$. The analysis suggested only a small effect of settlement, $F(1, 76) = 5.344$, $p = .024$.[2]

Subjective Probability

Figure 20 shows the subjective probability of winning for each role and frame condition, averaged across all scenarios. Figure 21 presents the average subjective probability of a plaintiff win for each role and frame condition for each of the three scenarios. Analysis of variance revealed a significant main effect for role ($F(1, 155) = 17.44$, $p < .001$), with plaintiffs reporting a greater chance of winning than defendants ($M = 58.21$ and $M = 45.37$, respectively). The analysis revealed no further effects for frame or scenario, nor were there any interaction effects ($p > .1$ in all cases).

[2]The data for this analysis violated the assumption of homogeneity of variance (Levene's Test, $F(7, 76) = 2.363$, $p = .031$), suggesting that a more stringent criterion ($p < .01$) should be used. Collapsing across pairings suggested that settlement had no effect on the number of rounds prior to the intervention, nor after the intervention, but there was an effect on the total ($t(82) = 2.295$, $p = .024$). It therefore seems likely that any effect is small, and could be a product of repeated statistical analysis.

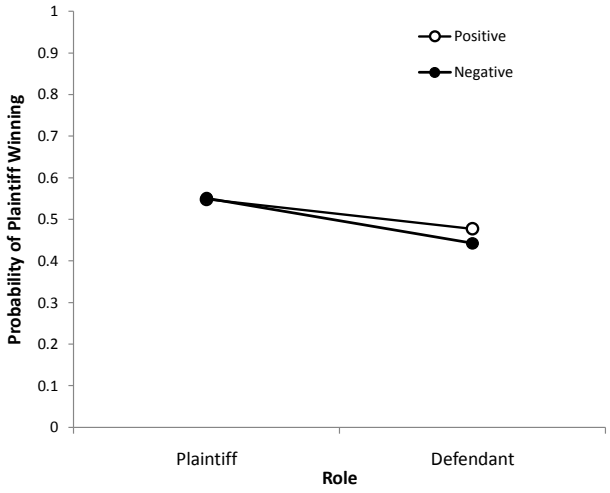

Figure 20: Average subjective probability of a plaintiff win as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across all three scenarios.

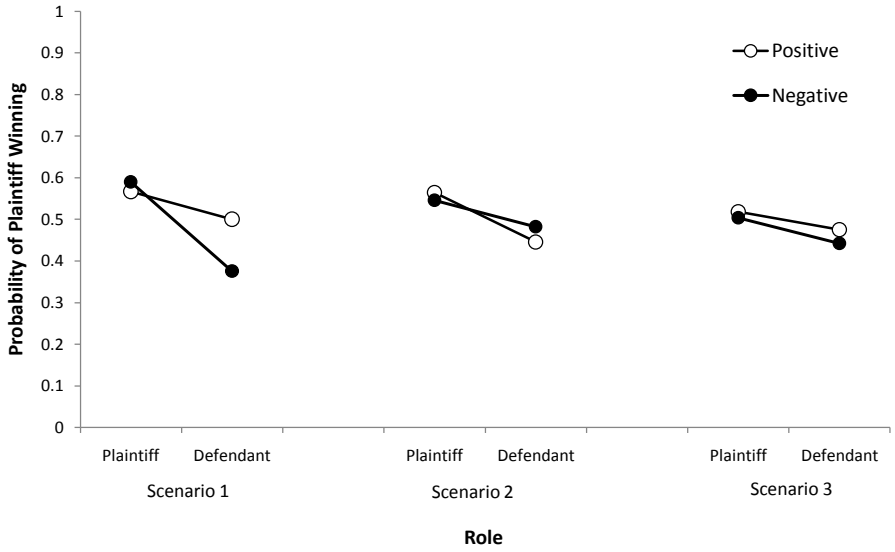

Figure 21: Average subjective probability of a plaintiff win as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) for each scenario.

Reservation Price

Figure 22 shows the mean reservation price given by each condition. As with the previous studies, there was a negative settlement window, with positively and negatively framed plaintiffs stating a higher reservation price ($11,821 and $12,356, respectively) than defendants ($9,386 and $8,858 for positive and negative frames, respectively). Interestingly, the introduction of court costs decreased the size of the negative window. In Study 3 (no costs), the average difference between the defendant's maximum and the plaintiff's minimum $5,767, compared with $2,973 in the current study. This suggests that the introduction of costs has made parties more risk averse by increasing their willingness to settle (as evident from more generous reservation prices).

Violations of the stated reservation price of one or both negotiators occurred in 76% (64 out of 84) of the negotiations. This is consistent with the results of Study 3 (violation rate of 80%). Plaintiffs made more violations than defendants (46 and 33, respectively), however this difference was not significant, $\chi^2 = 3.441$, $p = .064$. Frame had no effect on the number of violations.

Bargaining Behaviour

Pairs completed an average of 9.1 ($SD = 4.33$) rounds for each negotiation (across the entire eight minutes), which is slightly higher than in Study 3 (7.2 rounds). As in the previous study, a round is defined as one offer and the associated yes/no response, but does not include any counter-offer which

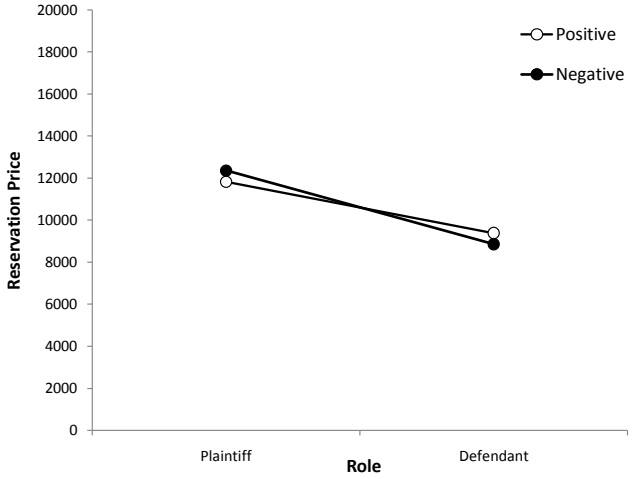

Figure 22: Average reservation price for each condition across all scenarios for Study 4.

may follow. Negotiations that resulted in a settlement averaged fewer rounds ($M = 8.7$, $SD = 4.5$) than those that did not ($M = 10.1$, $SD = 3.8$), but this difference was not significant, $t(82) = 1.42$, $p = .159$. There was no effect of role or frame on the number of offers made, which is contrary to the results of both Study 3 and the previous literature which suggests that plaintiffs and positively framed negotiators will exhibit more bargaining behaviour (make more offers). The number of rounds completed by each paired combination are summarised in Table 6. Consistent with the trend shown by the settlement data, the P−D+ combination averaged the highest number of rounds. The P−D− combination averaged the lowest number of rounds, which is consistent with the literature on framing in organisational conflicts.

4.3.3 Plotting Negotiations

One way of examining sequential negotiation data is to plot it graphically in order to reveal broad level trends in the data. As shown in Figure 23(a), plaintiff offers (vertical axis) can be plotted against defendant offers (horizontal axis). Negotiations commence at the point (0,20), when the plaintiff demands compensation and the defendant refuses to pay. Settlement occurs whenever the plaintiff's offer is equal to the defendant's offer, as defined by the settlement line, $P = D$.

The reservation prices of plaintiffs and defendants can be combined to create a 'reservation point'. Reservation points can also be plotted to show the settlement window. Points below the settlement line represent a positive win-

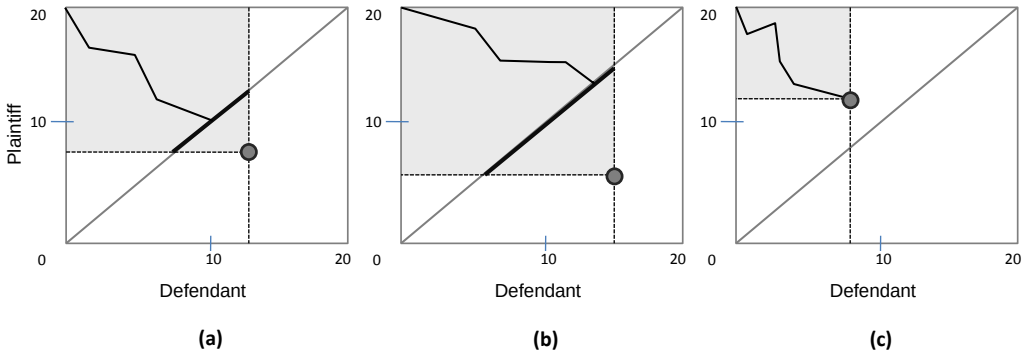

Figure 23: Plaintiff offers plotted against defendant offers (both in $1000s). As shown in (a), the reservation point defines the settlement window and settlement occurs if the negotiation reaches the settlement line ($P = D$). The effect of a positive frame is demonstrated in (b) and a negative frame is shown in (c).

dow, where the plaintiff's minimum is less than the defendant's maximum. A point above the line indicates a negative window where a settlement between the parties is not predicted. Representing the reservation prices this way clearly demonstrates the mechanism through which framing may influence settlement rates. A positive frame should increase the probability of settlement by making both parties more risk averse. This should create a larger settlement window which, as shown in Figure 23(b), provides a broader range of potential settlement points along the settlement line. A negative frame should have the opposite effect, making parties more risk seeking and therefore less likely to settle. This is illustrated in Figure 23(c), which shows a negative settlement window. At this point it is predicted that parties will fail to reach the settlement line.

Plotting the data reveals the strategies used by negotiators. That is, Figure 24 shows the negotiations for the P−D− pairing. Figure 24(a) shows the pairs that were able to negotiate a settlement. Generally, these negotiators have adopted a strategy of reciprocal concessions. This is characterised by a relatively direct path towards the settlement line. This can be contrasted with Figure 24(b), which highlights the unco-operative behaviour demonstrated by one or both negotiators in the pairs that failed to settle. These negotiations are characterised by steeper trajectories, which suggest that at least one party is not acting co-operatively. It is apparent that a failure to reciprocate concessions can result in the other negotiators responding with an offer that is less concessionary than their previous offer. This is evident from

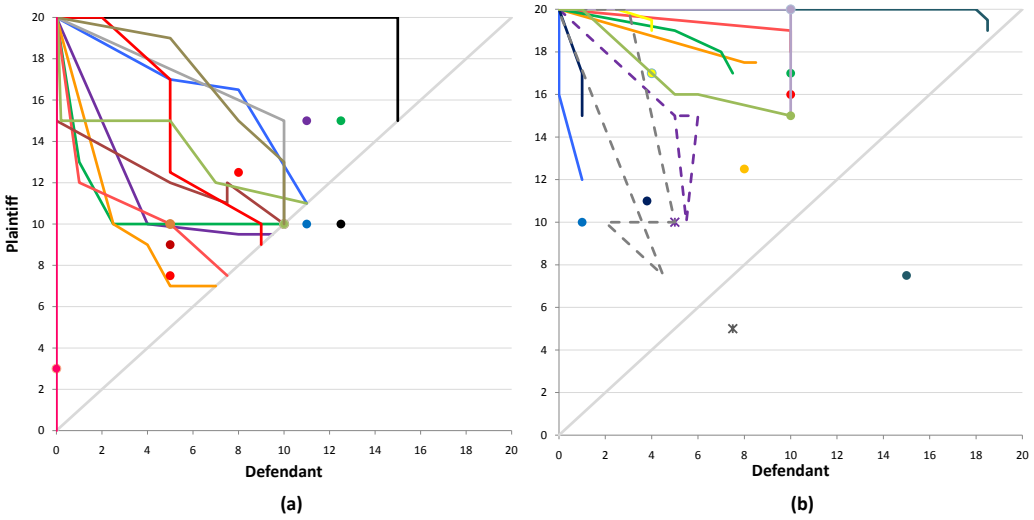

Figure 24: Plaintiff offers plotted against defendant offers (both in \$1000s) for the P−D− condition. Figure (a) shows trajectories and reservation points for pairs that reached a settlement ($n = 12$), while (b) shows the pairs that were unable to settle ($n = 11$). Settlement occurs if the negotiation reaches the settlement line ($P = D$). The dashed lines in (b) highlight unco-operative behaviour that was 'punished' by the other party (the associated reservation points are marked by *).

the two negotiations represented with dashed lines in Figure 24(b). Interestingly, most pairs, regardless of whether or not they settled, have negative settlement windows.

Figure 25 shows the negotiations for the P+D+ pairs that settled ($n = 11$), compared with those that did not settle ($n = 10$). As with the P−D− pairs shown in Figure 24, the P+D+ pairs that settled, shown in (a), generally demonstrated more co-operative behaviour (i.e. a more direct trajectory towards the settlement line) compared with those that did not reach an agreement, shown in (b).

Figure 25 also shows two negotiations which involved non-monetary offers (both marked by the dashed lines). These offers generally related to attempts at maintaining an ongoing business relationship. One such negotiation resulted in a settlement despite a large negative window (the reservation price for that negotiation is marked $*$ in (a)). Interestingly, the other pair that made non-monetary offers was unable to reach a settlement, despite agreeing on the level of financial re-imbursement appropriate ($11,000).

This examination of the negotiations demonstrates the value of plotting the sequential data in this manner. However, as with the formal analyses presented at 4.3.2 above, it is apparent that there are no strong framing effects. Only the P+D+ and P−D− conditions were examined using the plots as they are the most likely to demonstrate framing effects. Despite this, a comparison of Figures 24 and 25 suggests that while there are visible differences between the negotiations that settled and those that did not, there

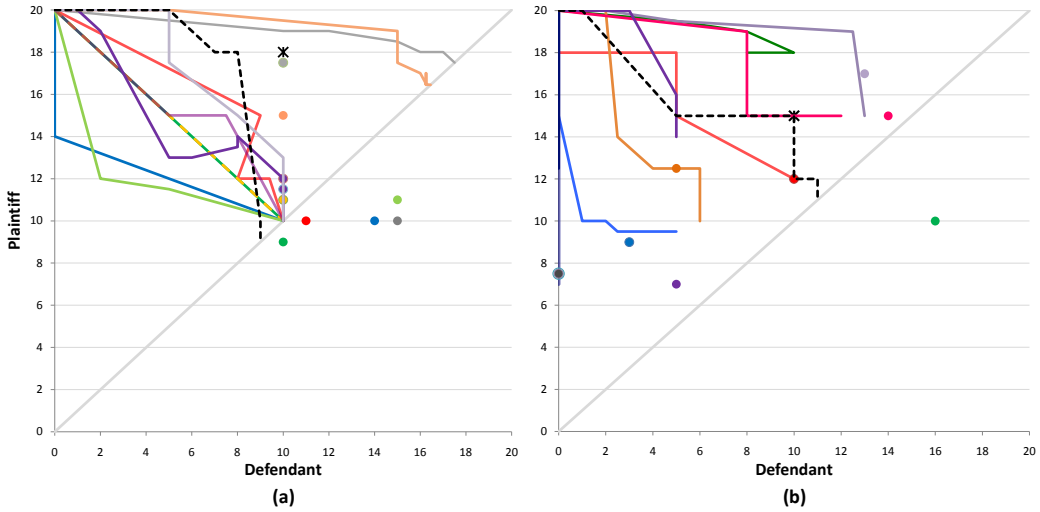

Figure 25: Plaintiff offers plotted against defendant offers (both in $1000s) for the P+D+ condition. Figure (a) shows trajectories and reservation points for pairs that reached a settlement, while (b) shows the pairs that were unable to settle. Settlement occurs if the negotiation reaches the settlement line ($P = D$). The dashed lines highlight negotiations which included non-monetary offers.

appears to be no systematic effect of frame. This is evident from both the negotiation trajectories and the reservation prices.

4.3.4 Discussion

The aim of this study was to determine whether introducing legal fees increased the rate of settlement, and whether there were any framing effects which may have previously been masked by a low settlement rate. The introduction of costs did increase the rate of settlement (65.5 percent compared with 53.3 percent in Study 3). However, this difference is not significant and is still in the lower range of settlement rates reported in similar studies, such as Babcock and Loewenstein (1997), who report rates of 60 to 85 percent. One possible reason for this low rate is that participants were *too* engaged in the task. That is, the 'fun' part of this experiment for participants was the negotiation itself, which is evident from the qualitative data. Given that settlement had neither a time incentive (participants had to remain until time ran out) nor a real financial incentive (payment was not contingent upon outcome), it is possible the experimental design actually encouraged participants not to settle. One way of overcoming this in the future would be to make payment contingent upon outcome, using a similar fee structure to that used in the dispute cover stories.

Despite the introduction of costs, this study did not find any framing effects. This is surprising given that the scenario evaluations on which the cover stories were based revealed such strong effects, and that similar studies

in the field of organisational conflict have found framing effects. There are many possible reasons why no effects were found, and several of these are explored in more depth in Chapter 5.

Firstly, it could be that the new scenarios which replaced those used in Studies 1 and 2 were not conducive to framing manipulations. Although the new scenario evaluations were closely based on those used in Studies 1 and 2, it is possible that the framing manipulation was not as effectve as in the originals. If true, this would suggest that framing effects in litigation are fragile and susceptible to minor alterations. This would make it unlikely that framing could be used to explain or predict litigant behaviour.

A second possibility is that the introduction of legal fees altered the expected values of each outcome (settlement and trial) differentially, which may have eradicated the framing effect. This would be problematic for the framing theory of litigation as legal fees are important for both internal and external validity in this type of experiment, and a fee schedule will usually involve an incentive to settle. This issue is investigated in more depth in Study 6.

Another possibility is that the manipulation regarding the way the outcome of the trial would be determined altered participant's responses, either in the way they perceived the problem, or in the way they recorded their subjective probability of winning. That is, Studies 1 and 2 informed participants that the outcome of the trial would be based on evidentiary concerns, and that their lawyer had predicted either a 50 percent chance of winning

(Study 1) or a 40-60 percent chance of winning (Study 2). As discussed, this resulted in participants reporting the full range of subjective probabilities from 0 to 100 percent. In the simulated negotiations, however, participants were told that the outcome would depend entirely upon which judge heard the case. Judge P would rule in favour of the plaintiff, while Judge D would rule in favour of the defendant. Participants were advised that there was no way of knowing in advance which judge would be selected. While participants still yielded the full range of subjective probabilities, there was anecdotal evidence to suggest that these probabilities were not necessarily used during their decision making process. That is, the question regarding subjective probability may have been interpreted as asking what the participant thought the probability would be if not for a biased judge. It could be that participants therefore provided a subjective probability but based their decisions on the objective probability. If this is the case, the effect of frame may have been masked. This possibility is explored in more detail in Study 7.

Chapter 5

Legal Fees and Framing

A major issue arising out of the previous chapter, and an obvious gap in the literature on litigation and framing, concerns the effect of costs. The scenarios used in Studies 1, 2 and 3 explicitly told participants to ignore the issue of costs. This was done for the sake of simplicity and to make clear any role/frame effects. A similar approach had been taken in previous research by Rachlinski (1996), van Koppen (1990), Korobkin and Guthrie (1994), Guthrie (2000) and Babcock, Farber, et al. (1995), none of whom incorporated court costs or legal fees into their vignettes. There has therefore been no empirical research on the impact of legal fees on framing.

Research in other fields of negotiation (for example, industrial relations) has considered the issue of transaction costs using the 'shrinking pie' paradigm (see for example, Babcock & Loewenstein, 1997). Under this paradigm, both parties share transaction costs, so that the longer the negotiation takes, the

smaller the total amount of money (the 'pie') becomes. This research has mostly found that negotiators under these circumstances tend to evaluate offers on the basis of equity, rather than absolute gains. For example, players will often propose counter-offers which result in lower net gains than the previously rejected offer, but which are more equitable (Babcock & Loewenstein, 1997).

However, transaction costs in these settings are not comparable to legal costs because the burden is not 'shared' in litigation, and costs between parties are not necessarily symmetrical. For example, most Australian jurisdictions use the 'loser pays' system of cost allocation. In theory, this means that no matter how high the legal fees become, there is always value in going to court, provided there is a non-zero probability of winning. For this reason there is little insight to be gained from considering research on the effect of transaction costs outside of the legal context.

5.1 Predicting the Effect of Costs

The main effect of legal costs on framing is that they unbalance the expected values of different outcomes. One of the principle motives behind the experimental work presented in this thesis was to properly measure the effect of framing by balancing the expected values of settling and going to trial. A failure to do this was identified as a shortcoming of previous research conducted by van Koppen (1990), Rachlinski (1996) and Korobkin and Guthrie

(1994, 1998).

The scenarios used in Studies 1 and 2 presented positively framed litigants with the choice between a certain $10,000 (settlement) or a gamble with a 50 percent probability of winning $20,000 or nothing (trial). Thus, both the certain and risky outcomes had the same expected value – $10,000. This would not be the case if the costs regime from Study 4 (as described above at 4.3.1) were implemented. The value of the settlement offer for positively framed litigants would be $7,500, given that $2,500 in legal fees would be subtracted from the final award. Alternatively, going to trial would have an expected value of $6,500. This is because litigants have a 50 percent chance of winning $20,000, and a 50 percent chance of losing and having to pay $7,000 in legal fees (thus, $0.5(\$20,000) + 0.5(-\$7,000) = \$6,500$). Therefore, the expected value of settlement is higher than that of the trial.

The reverse situation is true for litigants in a negative frame. In Studies 1 and 2, the expected values for settling and going to trial were both a loss of $10,000 (a $10,000 pay out versus a 50 percent chance of winning and paying nothing and a 50 percent chance of losing and paying $20,000). The addition of costs would unbalance these expectancies. That is, a $10,000 settlement would represent a loss of $12,500, while the trial would have an expected loss of $13,500 ($0.5(\$0) + 0.5(-\$27,000) = -\$13,500$).

It is not clear whether the inequality between the expected values will overpower any possible framing effect. This is because while prospect theory describes the general properties of the value function (i.e. steeper for losses

than for gains), the exact shape is determined by individual decision makers and is therefore unknown. This is demonstrated in Figure 26, where the value function shown in (a) suggests that positively framed litigants should prefer a trial, that is

$$w(1).v(\$7,500) < w\,(0.5)\,[v(\$20,000) + v(-\$7,000)]$$

while in (b) the outcome is the opposite (ie. the inequality in the equation above is reversed) due to the precise shape of the value function.[1]

A similar curve can be constructed for litigants in a negative frame in the domain of losses. That is, a negatively framed litigant will prefer trial to settlement when

$$w(1).v(-\$12,500) < w\,(0.5)\,[v(\$0) + v(-\$27,000)]$$

As with the positive frame, a litigant in a negative frame will prefer settlement when the inequality in the equation is reversed.

The above analysis demonstrates that prospect theory does not make clear predictions about the impact of legal fees on the propensity to settle. This is because the shape of the value function is unknown and unique to individuals. It is for this reason that it is preferable, where possible, to use decision outcomes that have equal expected values when examining the effect of framing.

[1] As above in 3.3.1, it is assumed that $w(p) = p$ as the outcomes are presented probabalistically (see Kahneman & Tversky, 1979).

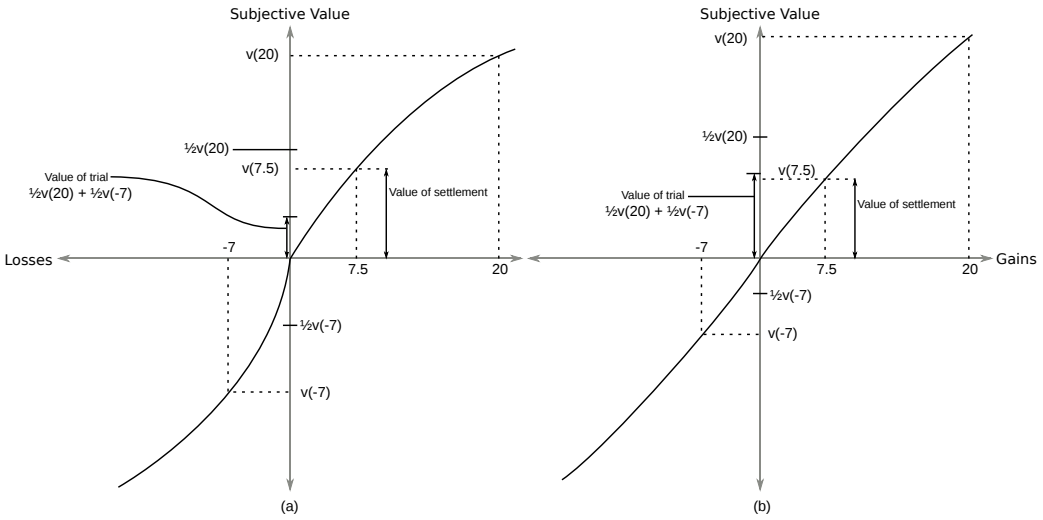

Figure 26: Two possible value functions showing the differential effect of a costs regime on litigant behaviour. Figure (a) illustrates how costs could lead positively framed litigants to show a clear preference for settlement. Figure (b) presents an alternate function which lessens the difference in value between trial and settlement and shows how positively framed litigants could prefer trial over settlement.

The following chapter presents three experiments using the scenario evaluation paradigm. The aim was to investigate whether or not the inclusion of costs (thereby unbalancing the expected values) removes the effect of frame, and whether this may explain the absence of framing effects in Study 4. To this end, Study 5 presented the scearios and costs regime used in Study 4 following the same format as Studies 1 and 2.

5.2 Study 5

5.2.1 Method

Participants

The participants were 144 psychology students (39 males) at the University of Adelaide who received course credit for their participation. They were aged between 17 and 38 ($M = 20$, $SD = 3.96$) and were randomly assigned to one of four groups. There were no other exclusion criteria.

Materials and Procedure

This study was presented online and closely followed the format of Studies 1 and 2. However, this study used the three scenario cover stories developed for the simulated negotiations conducted in Studies 3 and 4. The full text of these scenarios, as adapted for the online scenario-evaluation paradigm, are presented in Appendix E. In order to make up the four scenarios required of

the Latin Squares counter-balancing procedure (the same as that described in Study 1 above at section 3.1.1), the defamation dispute from Studies 1 and 2 was also included.[2] This scenario was chosen as it had demonstrated the strongest framing effect in the previous studies and therefore seems most likely to show an effect here.

The format of these scenarios differed from Studies 1 and 2 in two main ways. Firstly, the way the outcome of the trial – the judgment – was determined was altered. As explained in Studies 3 and 4 (above in section 4.2.1), the new scenarios informed participants that the outcome of the trial would depend entirely upon which of two judges was allocated to the case. Participants therefore had a 50 percent chance of winning. This was done in an attempt to anchor subjective estimates to the objective probability.

Secondly, these scenarios also incorporated the same structure of legal fees as laid out in Study 4. That is, participants were told that settling out of court would incur $2,500 in legal fees (per party), that was to be paid individually in addition to any settlement. Thus, the pre-trial settlement of $10,000 would result in the plaintiff ending up with $7,500, while the defendant would have to pay a total of $12,500. Alternatively, participants were informed that proceeding to trial would increase the fees to $3,500 each, which would be distributed on a 'loser pays' basis. This means that if the plaintiff won in court, they would receive the full $20,000 (with no legal fees),

[2]In Studies 1 and 2 the defamation scenario was presented first, while in the current study it was presented last.

while the defendant would have to pay a total of $27,000. Meanwhile, if the defendant won, they would pay nothing, but the plaintiff would have to pay $7,000 in legal fees.

As with the previous scenario evaluation studies, after reading the facts participants were asked to state their subjective probability of winning, the maximum (if the defendant) or minimum (if the plaintiff) offer they would be willing to accept, and to indicate whether or not they would accept a last minute settlement offer of $10,000.

5.2.2 Results

Settlement Rates

Figure 27 shows the overall proportion of accepted settlements collapsed over scenario as a function of legal role and frame. The pattern of results is similar to that found in Studies 1 and 2, with positively framed litigants more likely to settle than their negatively framed counterparts. However, this difference was not statistically significant, $\chi^2(1) = 1.36$, $p = .243$. Further analysis revealed a significant effect of role, $\chi^2(1) = 7.30$, $p = .007$, and no interaction between role and frame, ($p = .987$). Interestingly, the overall rate of settlement for both plaintiffs and defendants (60% and 48.9% respectively, averaged across frame) is lower than that found in Study 2 which did not incorporate legal fees (63.2% and 56.7% for plaintiffs and defendants, averaged across frame). This is inconsistent with the results of Studies 3 and 4, which

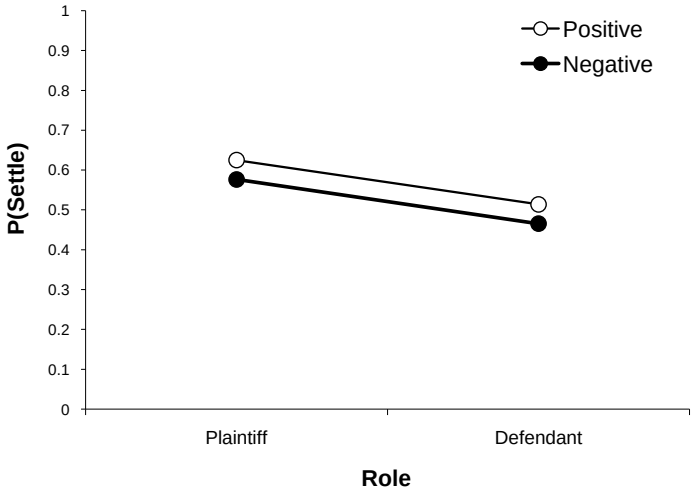

Figure 27: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across scenarios.

suggested that the inclusion of costs increased the rate of settlement.

Figure 28 shows the pattern of results for each scenario. Consistent with the overall analysis, there is no obvious effect of frame in any of the scenarios ($p > .1$ in all cases), including scenario 4, which had demonstrated strong framing effects in Studies 1 and 2. The effect of role was significant only in scenario 4 ($\chi^2(1) = 10.5$, $p = .001$) where plaintiffs were more likely to settle than defendants. This finding is consistent with the results of Studies 1 and 2 for that scenario. Scenario 2 shows a marginally signicant interaction between role and frame, $\chi^2(1) = 3.3$, $p = .069$.

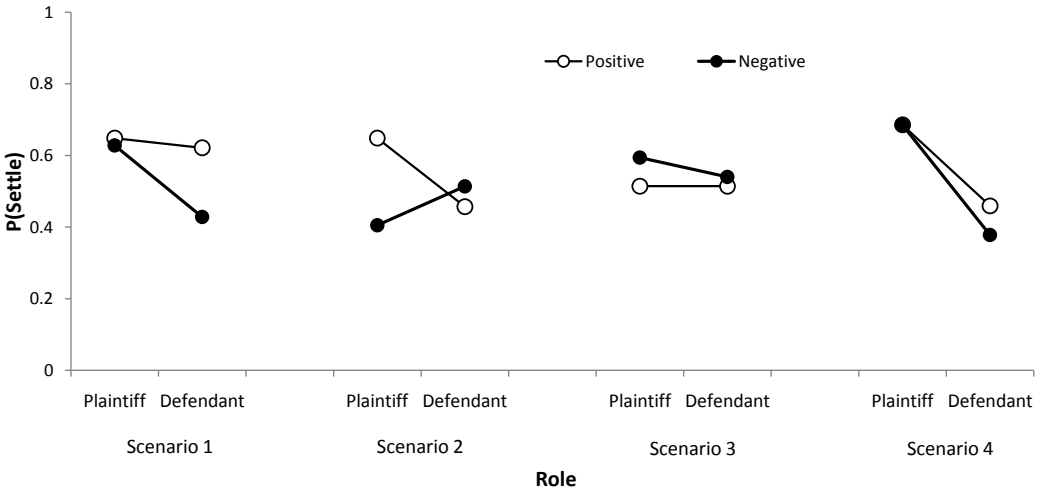

Figure 28: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) for each scenario.

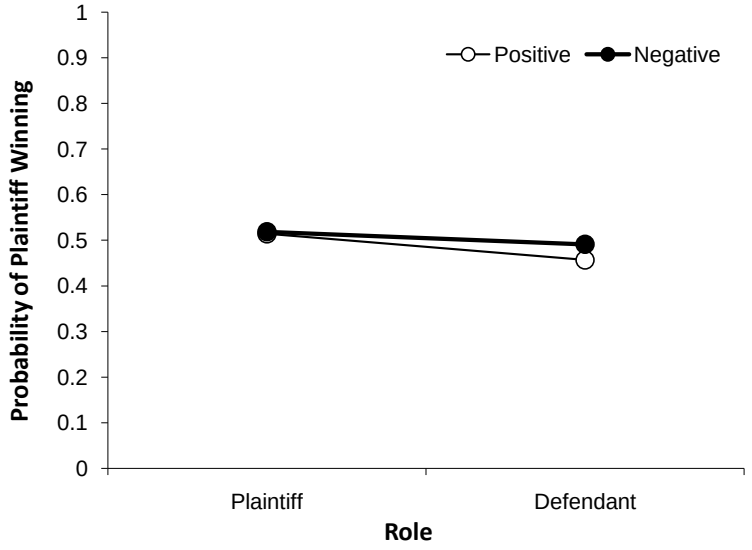

Figure 29: Average subjective probability of a plaintiff win as a function of role/frame condition averaged across all scenarios.

Subjective Probability

Figure 29 shows the average subjective probability of a plaintiff win as a function of role/frame condition. Analysis of variance revealed a significant main effect for role ($F(1, 572) = 18.05$, $p < .001$),[3] and no effect of frame, $F(1, 572) = 4.03$, $p = .045$.[4] There was no interaction effect, and no difference between scenarios, $\chi^2(3) = 4.02$, $p = .259$, by Friedman's test. The role effect is broadly consistent with Studies 1 and 2 in that participants revealed a self-serving bias in their probability estimates. That is, defendants' estimates of the plaintiff's chance of winning were lower than those of the plaintiffs ($M = 45.25$, $SD = 13.84$ and $M = 50.85$, $SD = 14.25$, respectively).

These results are also broadly consistent with those of Studies 3 and 4, which used a similar way of describing how the judgment at trial would be made (ie. pre-determined based on the selection of the judge). This leads to the suggestion that the manipulation had the desired effect of reducing the variance in participants' subjective probability of winning. Interestingly, there was no statistical difference between the subjective probabilities provided for the defamation case in Studies 1 and 2 (combined $M = 50.22$, $SD = 18.0$) and those from the same scenario of the current study (presented as scenario 4; $M = 52.38$, $SD = 16.53$), $t(550) = 1.27$, $p = .205$.

[3] Despite being highly significant, the effect size was small (partial eta squared = .031), explaining only 3.1% of the variance.

[4] Levene's test for equality of error variances was significant, suggesting a more stringent significance criterion ($p < .01$) should be used.

The settlement data were re-analysed using subjective probability estimates as a co-variate. Subjective probability of winning was a significant predictor of settlement ($p < .001$) for all except the first scenario, $\chi^2(1) = 1.63$, 25.06, 36.87 and 35.73, respectively. There was no effect of role or frame for any scenario, and the interactions for scenario 2 almost reached significance, ($\chi^2(3) = 3.82$, $p = .051$).

5.2.3 Discussion

While there were many procedural changes made to this study compared to the previous scenario evaluations, the results suggest that the introduction of legal fees has masked or otherwise removed the effect of framing on the decision making process. This interpretation is also consistent with the predictions of prospect theory as outlined above in section 5.1. This may also help to explain why no framing effects were found in the simulated negotiation experiments presented in the previous chapter.

As discussed, the literature on framing and litigation gives little consideration as to the possible impact of legal costs on the decision-making process. This gap is problematic given that a costs regime is largely unavoidable, both experimentally and in the real world. The simulated negotiation experiments presented in the previous chapter suggest that at least some form of costs regime is required in order to ensure an acceptable level of participant engagement and an appropriate rate of settlement. In terms of real litigation, neither a *pro bono* lawyer nor self-representation will eliminate the incursion

of legal fees. Appearing before a court of any level usually incurs fees, and jurisdictions which implement the 'loser-pays' system (such as Australia) create the additional risk of having to pay the other party's costs. Thus, legal fees are unavoidable and therefore their impact on framing should be properly considered.

The basic experimental design used in this thesis has sought, where possible, to balance the expectancies for both plaintiffs and defendants for positive and negative frames, in order to clearly differentiate the effects of role and frame. It is not clear that this is possible with the inclusion of a realistic fee structure, given that the goal is to provide an incentive for parties to settle.

The results of this study, in combination with the above analysis of prospect theory (summarised in Figure 26), appear to suggest that a relatively small difference of expected values between settlement and trial (as caused by the implementation of legal fees), may eliminate the effect of framing. This is problematic for the framing theory of litigation as it will often be the case that the expected values will be unbalanced, given the significant costs involved with going to trial.

However, there is some inconsistency in the data which suggests that the absence of framing effects in this study may not be due solely to the introduction of costs. Based on Studies 3 and 4, it was assumed that the effect of costs would be to increase the rate of settlement by making a trial appear relatively less attractive (in terms of expected value). Although this assumption appeared to fit the data, an analysis of the effect of costs using

prospect theory (as shown in Figure 26) suggested that this is not necessarily the case. Furthermore, as shown in the previous section, the same increase in the rate of settlement was not evident between Study 2 (without costs) and Study 5 (with costs).

One possible explanation for this is that the new scenario cover stories may have led to a lower base rate of settlement than the cover stories in Studies 1 and 2, regardless of the implementation of a costs regime. That is, Studies 1 and 2 demonstrated significant between-scenario differences in the rate of settlement, an effect largely driven by estimates of the subjective probability of winning. It is possible that such differences existed in the new scenarios, which could have altered both the effect of frame and the base rate of settlement. Study 6 tested this by repeating Study 5 without the costs regime.

5.3 Study 6

5.3.1 Method

Participants

There were 112 participants in this study (50 males), which was made publicly available online. However, the majority of participants were psychology students at the University of Adelaide who received course credit for their participation. They were aged between 17 and 66 ($M = 31.7$, $SD = 14.23$)

and were randomly assigned to one of four groups. There were no other exclusion criteria.

Materials and Procedure

This study was the same as Study 5 except that participants were asked to disregard the possibility of legal fees. Accordingly, all information relating to the costs regime was removed from the scenarios, an example of which can be found in Appendix F. This meant that the instructions given to participants were exactly the same as those used in Studies 1 and 2 (Appendix B).

5.3.2 Results

Settlement Rates

Figure 30 shows the overall proportion of accepted settlements collapsed over scenario as a function of legal role and frame. The pattern of results is different from that found in previous studies. There is a role effect ($\chi^2(1) = 5.75$, $p = .016$) and no effect of frame ($\chi^2(1) = 0.44$, $p = .506$). Figure 30 also shows a significant interaction between role and frame ($\chi^2(1) = 4.33$, $p = .037$) which had not been found in previous studies. The rate of settlement for plaintiffs and defendants (61.6% and 50.4% respectively, averaged across frame) was similar to that found in Study 5 (60% and 48.9%, respectively).

Figure 31 shows the proportion of accepted settlements for each scenario. The analysis revealed no effect of frame and no significant interactions be-

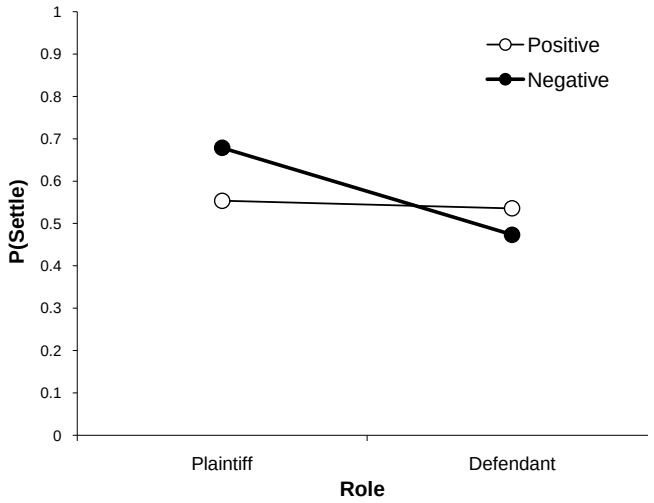

Figure 30: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across scenarios.

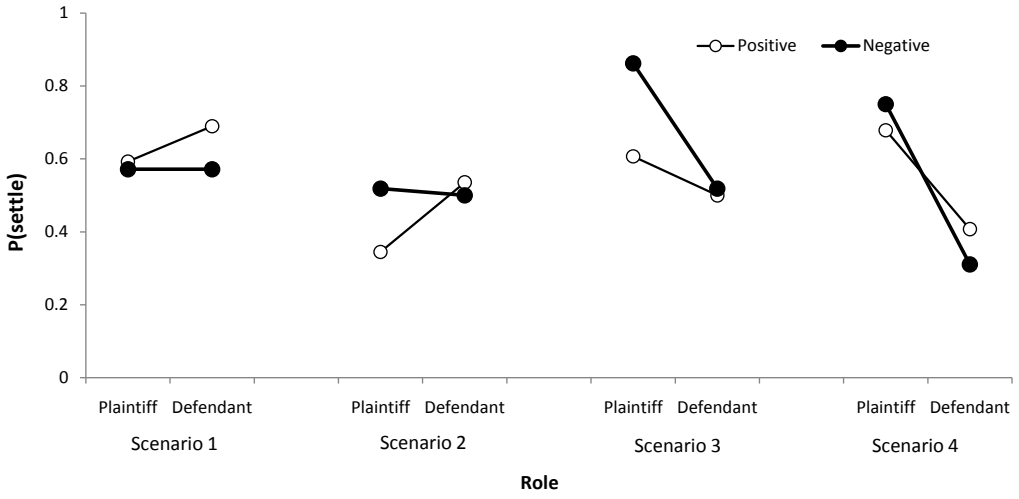

Figure 31: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) for each scenario.

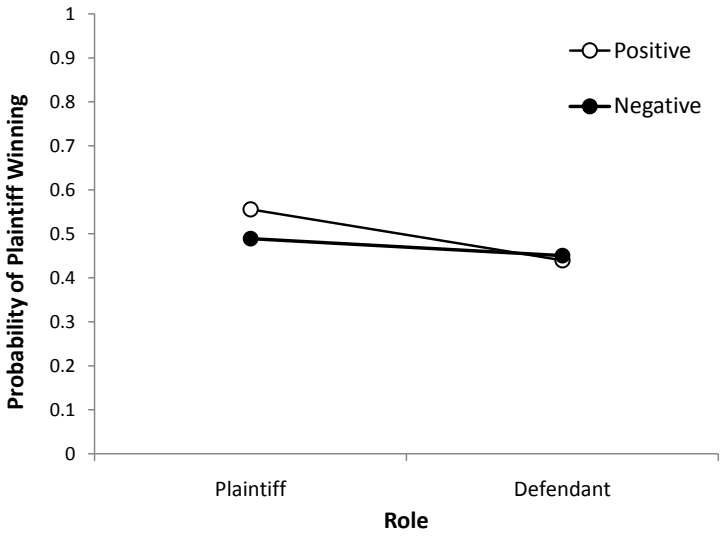

Figure 32: Average subjective probability of a plaintiff win as a function of role/frame condition averaged across all scenarios.

tween role and frame for any scenario ($p > .1$ in all cases). Only scenarios 3 and 4 demonstrated a significant role effect, $\chi^2(1) = 6.26$, $p = .012$ and $\chi^2(1) = 14.67$, $p < .001$, respectively.

Subjective Probability

Figure 32 shows the average subjective probability of the plaintiff winning as a function of role/frame condition. Analysis of variance revealed a main effect of role ($F(1, 444) = 24.41$, $p < .001$), a marginal effect of frame ($F(1, 444) = 3.67$, $p = .056$) and an interaction effect ($F(1, 444) = 6.302$, $p = .012$).

The settlement data were re-analysed using subjective probability as a covariate. Subjective probability of winning was a highly significant predictor

($p < .001$) for all four scenarios. There was no effect of frame in any scenario ($p > .1$ in all cases), and the effect of role was significant only in scenario 4, $\chi^2(1) = 4.85$, $p = .028$.

5.3.3 Discussion

The aim of this experiment was to determine whether framing effects (similar to those found in Studies 1 and 2) could be detected using the scenario cover stories from Study 5 without the costs regime. This would have lent further support to the assertion that it was the implementation of costs that removed the effect of frame in Studies 4 and 5, and not some other extraneous variable. However, somewhat surprisingly this experiment also failed to demonstrate any effect of frame, which suggests that the introduction of costs alone cannot explain the results.

Other than legal fees, there are two remaining differences between the scenarios used in Studies 1 and 2 (which did find framing effects) and the current series of experiments which have not. Firstly, the scenario cover stories themselves were changed. Studies 1 and 2 used four cover stories which consisted of disputes about defamation, real property, contractual obligations and inheritance (presented in that order). Scenario 2, the property dispute, was based closely on a scenario used by Rachlinski (1996). Studies 5 and 6 (as well as the simulated negotiations presented in the previous chapter) made use of three new cover stories: one copyright dispute and two contractual disputes (however these involved two very different contexts). Scenario 2,

a contractual dispute concerning the sale of a racehorse, was based on a vignette used by van Koppen (1990).[5] All scenarios followed the same basic outline, and were matched for length (excluding the information regarding costs) and detail.

While it is possible that simply changing the cover stories removed the effects of role and frame, this seems unlikely given that all three scenario evaluation studies had one cover story in common: the defamation dispute. The defamation dispute (presented first in Studies 1 and 2, and last in Study 5) was selected to be repeated as it yielded some of the strongest framing effects in the first two studies. However, as was demonstrated above in section 5.2.2, there was no evidence of either a role or frame effect in the defemation dispute in Study 6. One possibility is that this may be due to order effects as, regardless of which version of the questionnaire they received, all participants responded to the scenarios in the same order. As mentioned, this meant that participants in Studies 1 and 2 responded to the defamation dispute first, while participants in the current study responded to it last. While it is possible that this, combined with the new cover stories, could account for the lack of framing effects in the current study, this explanation seems unlikely.

The second possibility is the way the outcome of the trail was described. This alteration was made in order to anchor the subjective probability of

[5]Van Koppen's original vignette was actually about a puppy, which was changed to a racehorse for these studies in order to make the sum of $20,000 more plausible.

winning more closely to the objective probability (50 percent). This alteration was used in both simulated negotiation experiments and, as discussed, appeared to have some (limited) success in narrowing the range of responses. In Study 5, the judgment manipulation appears to have had little effect on the subjective probabilities provided by participants, as based on the comparison of the defamation dispute across Studies 1, 2 and 5. Additionally, analysing the settlement data using subjective probability as a co-variate made little difference to the results. However, the best way to test this is to conduct an experiment which uses the new cover stories, but describes the possible outcomes of a trial in exactly the same way as in Studies 1 and 2. This was done in Study 7.

5.4 Study 7

5.4.1 Method

Participants

The participants were 189 psychology students (77 males) at the University of Adelaide who received course credit for their participation. They were aged between 18 and 46 ($M = 20.1$, $SD = 3.7$) and were randomly assigned to one of four groups. There were no other exclusion criteria.

Materials and Procedure

This study was the same as Study 6 except that the judgment was described in the same way as that used in Study 2. That is, instead of being told that the outcome of the trial depended on which judge heard the case, participants were informed that their lawyer had advised that they had a '40-60 percent chance of winning' depending on whether the judge accepted a particular factual assertion.[6] This means that the defamation dispute was presented in exactly the same way as it was in Study 2, other than the order (last instead of first).

5.4.2 Results

Settlement Rates

Figure 33 shows the overall proportion of accepted settlements collapsed over scenario as a function of legal role and frame. The results suggest a slight framing effect, consistent with Studies 1 and 2, however this difference is not significant, $\chi^2(1) = 1.09$, $p = .297$. Analysis also revealed a significant effect of role, $\chi^2(1) = 6.94$, $p = .008$, and no interaction, $\chi^2(1) = 0.06$, $p = .805$. Figure 34 shows the probability of settlement for each condition in each scenario. This reveals a variable effect of role and frame, with a significant framing effect in scenario 1, $\chi^2(1) = 6.40$, $p = .011$, and a significant

[6] Study 1 advised participants that they had a 50 percent chance (rather than 40 - 60). As shown by the re-analysis of studies 1 and 2 in section 3.3, there seems to be little difference between the two conditions.

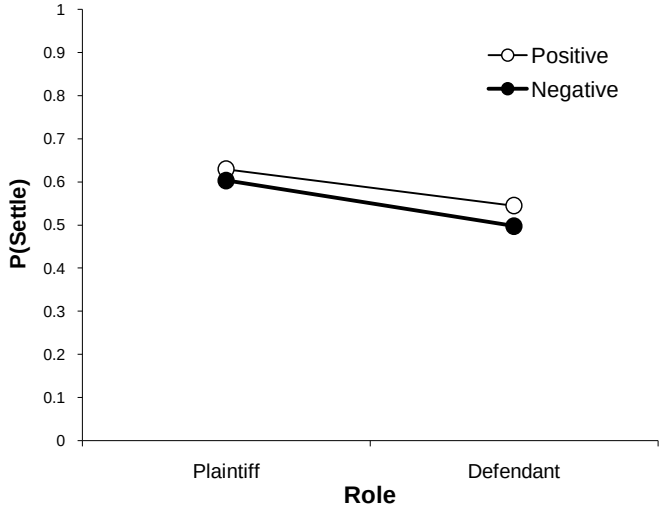

Figure 33: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across all scenarios.

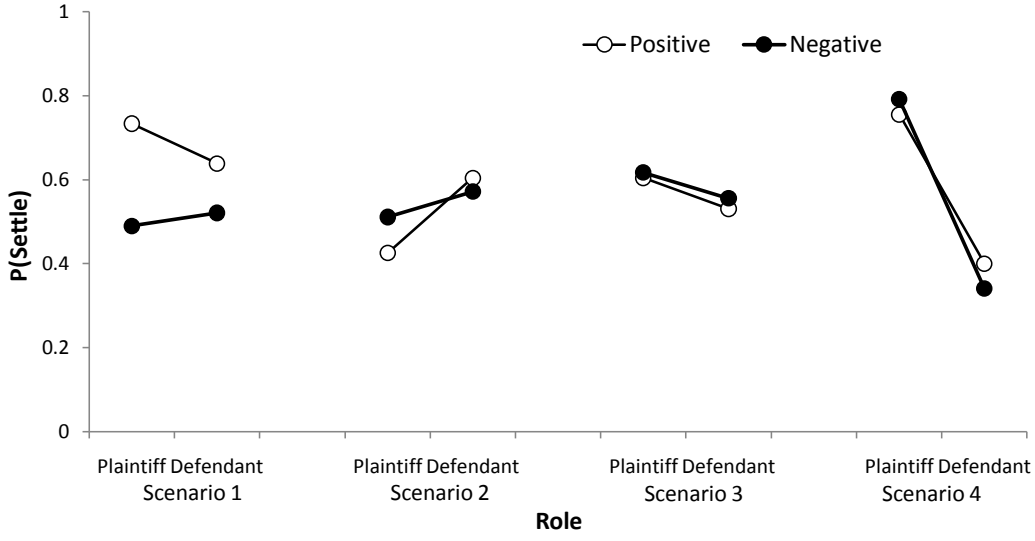

Figure 34: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) for each scenario.

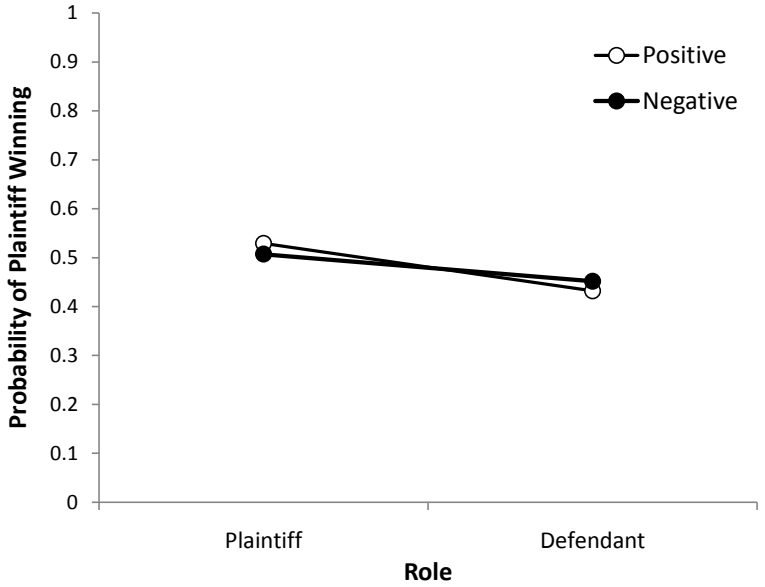

Figure 35: Average subjective probability of a plaintiff win as a function of role/frame condition averaged across all scenarios.

role effect in scenario 4, $\chi^2(1) = 32.44$, $p < .001$. None of the role/frame interactions were significant ($p > .1$ in all cases).

Subjective Probability

Figure 35 shows the average subjective probability of the plaintiff winning as a function of role/frame condition. Analysis of variance revealed a significant effect of role ($F(1, 752) = 37.28$, $p < .001$), with plaintiffs and defendants both exhibiting a slight self-serving bias ($M = 51.72$, $SD = 17.69$ and $M = 44.18$, $SD = 16.23$, respectively). There was no frame or interaction effect ($p > .1$).

The settlement data were re-analysed using subjective probability as a covariate. Subjective probability of winning was a highly significant predictor ($p < .001$) for all four scenarios. Scenario 1 revealed an effect of frame ($\chi^2(1) = 9.17$, $p = .002$) and scenario 4 demonstrated a role effect, $\chi^2(1) = 8.90$, $p = .003$. There was no other effect of role, frame or their interaction in the remaining scenarios.

5.4.3 Discussion

As with previous studies, this study did not find any consistent effect of role or frame.

5.4.4 Comparison of Studies 5 - 7

Settlement Rates

Figure 36 compares the overall proportion of accepted settlements collapsed over scenario as a function of role and frame for Studies 5, 6 and 7. The effect of legal role is significant ($p < .01$) for all three studies, $\chi^2(1) = 7.30$, 5.75 and 6.94 respectively, with plaintiffs more likely to settle than defendants in all three studies. The effect of frame is not significant in any study, and the interaction between role and frame is significant in Study 6, $\chi^2(1) = 4.33$, $p = .037$.

Figure 37 shows a comparison of the settlement rate for the defamation dispute across all five scenario evaluation studies. This comparison highlights

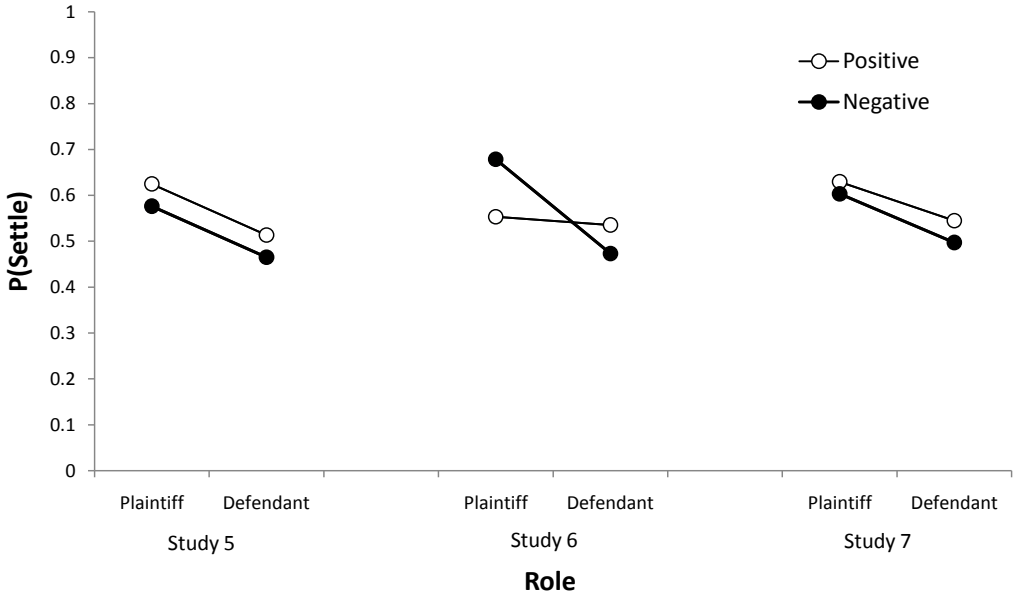

Figure 36: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) averaged across scenarios for Studies 5, 6 and 7.

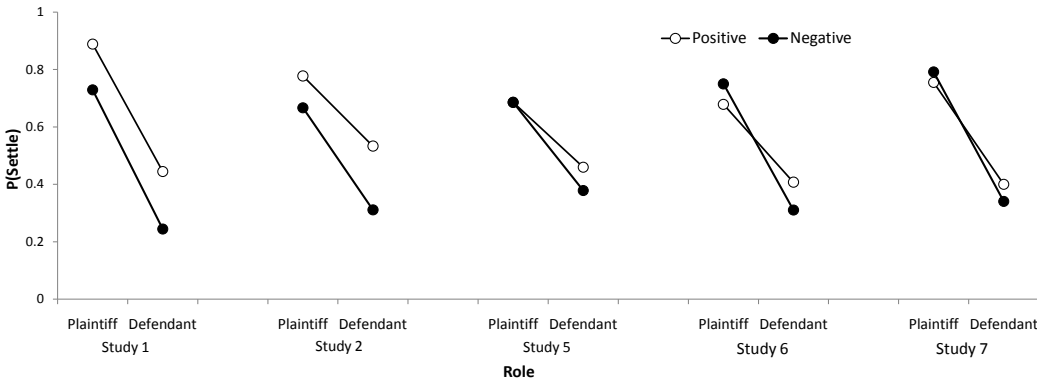

Figure 37: Proportion of settlement acceptances as a function of legal role (plaintiff vs. defendant) and frame (positive vs. negative) for the defamation dispute for each of the scenario evaluation studies. This scenario was presented to participants first in Studies 1 and 2 and last in Studies 5-7.

the similar pattern of results across all five studies, regardless of the order of presentation (first or last), legal fees or how the judgment was described. The data demonstrate a significant effect of role in all five studies and a significant effect of frame for Studies 1 and 2.

Subjective Probability

A one-way analysis of variance was conducted to examine the effect of the 'judgment' manipulation on estimates of subjective probability for Studies 5, 6 and 7, collapsed across scenarios. The data violated the assumption of homogeneity of variance (Levene's test, $F(2, 1777) = 10.123$, $p < 0.001$), thus the more robust Brown-Forsythe test was used, but found no difference between the three studies, $F(2, 1566.08) = 0.078$, $p = .925$. Figure 38 demonstrates this, but also suggests that there is some slight anchoring caused by the 'judgment' manipulation, as evident from the slight decrease in the proportion of participants who reported '50%' as their subjective probability of winning in Study 7.

The settlement data from each study were re-analysed using subjective probability estimates as a co-variate. These results suggest that while subjective probability remained a significant predictor of settlement (except for scenario 1 of Study 5), role and frame had only a variable and intermittent influence. Furthermore, the experimental manipulations that were implemented appear to have had no systematic effect on settlement rates.

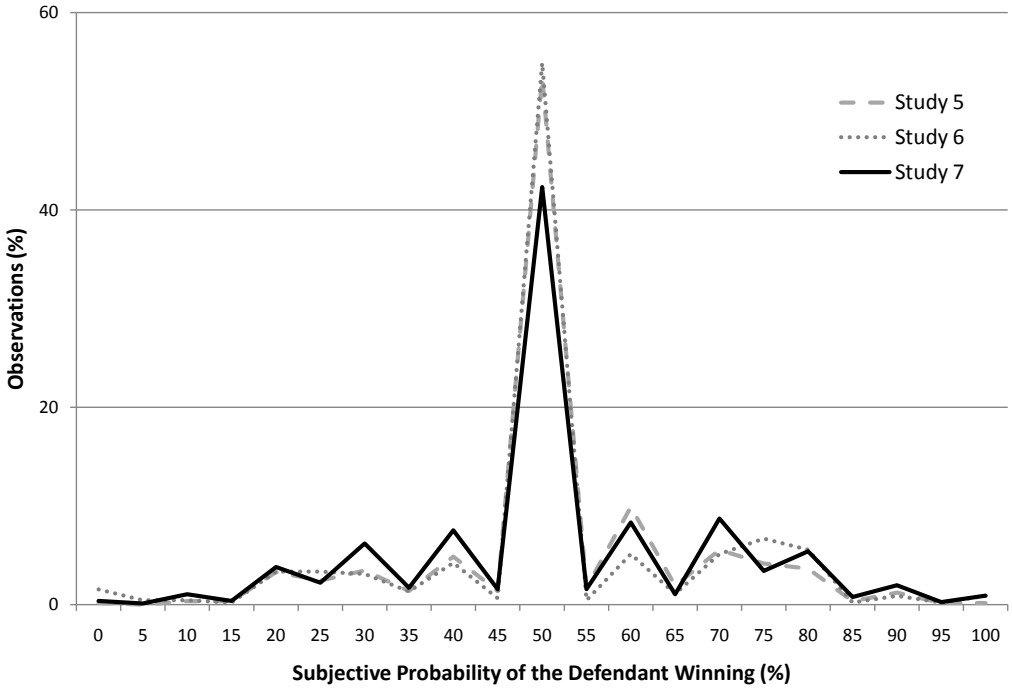

Figure 38: Distribution of subjective probability estimates (chance of defendant winning) collapsed across scenario for Studies 5, 6 and 7.

Costs

As discussed, the scenarios used in Study 5 incorporated information about legal fees in order to consider the impact of this upon settlement rates. A formal analysis of the effect of costs is difficult given that neither Study 5 nor Study 6 (the two studies differ only on the consideration of costs) show any systematic differences on settlement rates across conditions. Similarly, while the formal analyses illustrate some differences between the two studies, there does not appear to be any discernable pattern. Thus, it is difficult to determine whether differences are due to costs, or to some other factor entirely.

5.5 Summary of Studies 5, 6 and 7

The result of Studies 5, 6, and 7 is that the framing effects, which were strong and consistent in the first two studies, appear to have vanished. The effect of legal role has also become more unpredictable. There are a number of possible explanations for this – the inclusion of costs, the altered judgments, the new cover stories or possible order effects. However, as will now be discussed, none of these possibilities provide a satisfactory explanation for the current results.

The first explanation to consider for the contrasting results is possible demographic differences between the samples. However, there does not appear to be anything obviously different between the samples used in Studies

5, 6 and 7, compared with those of Studies 1 and 2. While most studies were available publicly online, the majority of participants were first year psychology students at the University of Adelaide, who participated for course credit. The exception to this is Study 6, for which participants were recruited mostly through the acquaintance of the researcher. This is reflected through a higher mean age compared with the other studies, and a more even proportion of male and female participants. However, slight demographic differences in the sample for Study 6 do not explain the contrasting results for the reminaing four studies. Furthermore, the samples for all five studies were completely independent, and the online booking system prevented students from participating more than once (it is technically possible that students could have accessed the questionnaire publicly without using their student number, although they would have no motivation to do so). It therefore seems unlikely that the contrasting results were caused by sampling issues.

The defamation dispute cover story (presented as scenario 1 in Studies 1 and 2, and as scenario 4 in Studies 5, 6 and 7), was selected to be repeated as it yielded some of the strongest role/frame effects in the first two studies. Thus, the presentation of this scenario in Study 7 was exactly the same as in Study 2 (except for possible order effects, which will be discussed below). As was demonstrated by Figure 37, the results for this scenario still revealed a significant role effect for Study 7, although there is no effect of frame. Given that this scenario, which previously demonstrated such robust effects, also yielded inconsistent data, it seems unlikely that the new cover stories are the

sole cause of these results.

While the new cover stories do not appear to have caused the change in results, it is possible that there are order effects evident in the scenarios. Regardless of which version of the questionnaire they received, all participants responded to the scenarios in the same order. As mentioned, this means that participants in Studies 1 and 2 responded to the defamation dispute first, while participants in Studies 5, 6 and 7 responded to it last. Thus, the results cannot be directly compared. It is worth noting, however, that Studies 1, 2 and 7, which all followed the same basic format,[7] have the same pattern of results for the first scenario: subjective probability of winning as a significant predictor of settlement, with no role effect, but a significant framing effect. Studies 5 and 6 do not adhere to this pattern, although this could be due to the experimental manipulations of costs and judgment. However, while Studies 1 and 2 follow the same pattern of significant role/frame effects for each scenario except the last (for scenario 4, both studies found significant effects for subjective probability and role, however Study 2 found a framing effect while Study 1 did not), Study 7 follows the pattern only for scenario 1. Studies 5 and 6 do not follow any of these patterns, but as mentioned this could be due to other experimental manipulations. Thus, any order effects that may exist are slight and can only be explored by a fully crossed experi-

[7] Study 1 did not ask participants for an estimate of their maximum or minimum price, and the questions regarding subjective probability and the settlement offer were in the reverse order from Studies 2 and 7. However, order here does not seem to have had an effect (see the re-analysis of Studies 1 and 2 at section 3.3).

mental design. Even if the order effect is real, it appears to be minor and it seems unlikely it could explain all of these results.

Thus, there does not appear to be any obvious explanation for the results of Studies 5, 6 and 7. Perhaps the best explanation would be a combination of the new cover stories and order effects for the defamation dispute, however this is not overly compelling. Therefore, the only conclusions that can be drawn from these studies is that while there are role and frame effects, they do not appear to be systematic. This is discouraging in that one of the aims of this research was to be able to predict framing effects, so that they could be manipulated in order to induce out of court settlement.

Importantly, one finding that is reasonably consistent across all five studies is that role and frame are independent constructs. This suggests that there is still potential for framing to influence a litigant's perspective over and above the effect of legal role. This provides some hope that if the framing effect can be unravelled, it may still be possible to use it to increase the probability of reaching a settlement.

Chapter 6

Discussion

6.1 General Discussion

This thesis had three main aims. The first was to examine whether decision making during litigation is subject to framing effects, as predicted by Kahenman and Tversky's prospect theory. If so, the second goal was to investigate whether framing is independent of legal role. Prior research had assumed that frame is determined by role and concluded that plaintiffs are risk averse while defendants are risk seeking. The final aim of this thesis was to explore whether framing could be used to increase the chance that a litigant would settle. This was investigated through the simulated negotiation studies, which are the first to consider framing and litigation.

This thesis has presented seven studies which have been separated into three groups. The principle conclusion to be drawn from these experiments

is that the effect of frame does not appear to be a strong determinant of litigant behaviour. Each of these studies will now be reviewed, and then the overall findings will be discussed in more detail.

6.1.1 Studies 1 and 2

The first two studies were a direct application of the Asian disease problem to establish that settlement decisions in litigation are subject to framing effects as predicted by prospect theory. They used the scenario evaluation paradigm to examine whether the effects of role and frame could be dissociated, and to build on the results of Gilliland and Dunn (2008, Experiment 1). Study 1 asked participants to indicate whether or not they should accept a $10,000 settlement offer, and to state their subjective probability of winning in court. Overall, the results revealed a strong framing effect with no effect of role and no interaction with role. Study 1 also highlighted the substantial (and unexpected) distinction between subjective and objective probability estimates. This finding is new to litigation research on framing. Subjective probabilities showed a high level of agreement between conditions and a slight self-serving bias. Study 1 also explored participants' perceptions of which party was the more morally justified in their behaviour for each scenario cover-story. The data suggest a strong positive correlation between morality and subjective probability.

Study 2 built on these findings by examining the reservation price of each party. These results demonstrated a high level of inconsistency (ie.

participants violating their reservation prices), which suggests that responses may be more indicative of an individual's expectations, rather than an actual 'bottom line'. Overall, the responses of plaintiffs and defendants to this question created a negative settlement window which does not reflect the relatively high rate of settlement which was observed. Study 2 also addressed the possibility of order effects arising from Study 1.

Taken together, the results of Studies 1 and 2 support the findings of Gilliland and Dunn (2008) and suggest that role and frame are independent constructs. More importantly, they suggest that after controlling for subjective probability, frame is a stronger influence on the rate of settlement than role. As would be expected, the data show that subjective probability is a strong predictor of settlement. The surprising result is just how much variance was evident in the estimates of subjective probability, a trend which was consistent throughout the experiments presented in this thesis. It was predicted that while there may be some deviation, the majority of responses would closely adhere to the objective estimate. This was not the case and the implications of this will be discussed in more detail below. The findings of Studies 1 and 2 provided the experimental groundwork for the simulated negotiations which followed.

6.1.2 Studies 3 and 4

The aim of Studies 3 and 4 was to determine whether the findings of the previous studies could be replicated using the simulated negotiation paradigm

similar to that used by Babcock and Loewenstein (1997) and Babcock et al. (1997). To my knowledge, this has not been done before. Study 3 was the first simulated negotiation experiment, implemented as a pilot for Study 4. The materials followed the same format as the scenario evaluation experiments but used different cover stories and a different explanation for how the outcome of the trial would be determined.

Preliminary analysis of the negotiation data did not indicate any framing effects. It is possible that this was due (at least in part) to the low rate of settlement achieved by negotiating pairs, which may have masked any effects. The low rate of settlement may have reflected the difficulty of the task (actually negotiating a settlement with another person is much harder than simply responding 'yes' or 'no' to a single offer) but may also have been due to a lack of incentive to reach an agreement. That is, with no costs regime, and no real consequences for participants, there was little incentive to settle. Study 4 sought to resolve this issue by introducing a schedule of legal fees into the stimulus materials. The structure of the legal fees made it beneficial to both parties to achieve an out of court settlement. Study 4 was the same as Study 3 in all other respects.

The introduction of court costs did increase the rate of settlement from 53.4 percent in Study 3 to 65.5 percent in Study 4. While this is still significantly below the rate of settlement in real litigation (approximately 95 percent) it does suggest that participants incorporated the information when making their decisions. It seems likely that paying participants contingent

upon their negotiated outcome may be the optimal strategy to ensure maximum engagement and realism. The introduction of costs also decreased the size of the negative settlement window determined through the reservation price of plaintiffs and defendants. This suggests that the introduction of fees made both parties more risk averse, as evidenced by more generous reservation prices.

Despite the increased rate of settlement, the results of Study 4 did not demonstrate any consistent framing effect. Indeed, contrary to the predictions of prospect theory, the positive pairing (P+D+) exhibited the lowest rate of settlement, although this difference was not significant. Furthermore, framing does not appear to have affected the bargaining behaviour of paired litigants. That is, there was no difference between the conditions in terms of the size of the settlement (when achieved), the number of rounds completed or the number of offers made. These results are not consistent with previous research on two-party negotiations (see for example Neale & Bazerman, 1992) which has found that positively framed negotiators exhibit more concessionary behaviour than their negatively framed counterparts.

Given that there were a number of changes to the stimulus materials, it was unclear whether the absence of framing effects was a result of the paradigm shift to simulated negotiations, the introduction of legal fees, or some other seemingly minor experimental manipulation. Studies 5-7 aimed to investigate this further.

6.1.3 Studies 5-7

The purpose of Study 5 was to determine whether framing effects were present in a scenario evaluation study which incorporated costs. As was discussed, the effect of costs on the rate of settlement cannot be clearly predicted by prospect theory given that the exact shape of the value function is unknown. Study 5 therefore sought to determine whether the absence of framing effects in Study 4 was a result of the experimental design (simulated negotiations versus scenario evaluations) or due to the introduction of court costs. Study 5 followed the same format as Studies 1 and 2 but used the cover-stories and costs regime from Study 4. As reported, the data did not indicate any consistent effect of frame.

The aim of Studies 6 and 7 was to confirm that it was the introduction of court costs and not some other factor which had eliminated the framing effect in Studies 4 and 5. Study 6 was the same as Study 5 except that it did not include the costs regime. Study 7 was the same as Study 6 except that the 'judgment' was described in the same manner as in Studies 1 and 2. Surprisingly, neither study found an effect of frame, despite their high degree of similarity with Studies 1 and 2.

6.1.4 Conclusions

There appears to be no neat explanation for the somewhat inconsistent results presented in this thesis. However, it does seem likely that prospect the-

ory cannot provide an adequate explanation of litigant decision making in a realistic setting. Although Studies 1 and 2 (and Experiment 1 of Gilliland & Dunn, 2008) found strong framing effects across all scenarios, these findings must be moderated by the results of Studies 5 - 7. The absence of framing effects in these latter studies was surprising and suggests two possible explanations.

Firstly, it is possible that the effect of framing in litigation is fragile and depends on the exact circumstances of the dispute (ie. the cover-stories). That is, the particular disputes outlined in the first two studies were somehow more conducive of a framing effect than those outlined in the final three studies. This seems unlikely given that the defamation dispute scenario was common to all scenario evaluation studies (albeit in a different order).

The second possibility is that the results of Studies 1 and 2 (and Experiment 1 of Gilliland & Dunn, 2008) are type I errors, and that there is in fact no effect of framing in litigation. This also seems unlikely, given both the sample size and the consistency of the effect. Likewise, it is possible that Studies 6 and 7 are type II errors and have failed to show an effect when in fact an effect exists. This would interpretation would make it difficult to determine whether the results of Study 5 are due to the addition of costs, or some other factor. Thus, both of these explanations are somewhat dissatisfying.

The simulated negotiation experiments presented in Chapter 4 suggest that, regardless of the interpretation of results given to the scenario evalu-

ation studies, framing does not have an impact on litigant behaviour. As discussed, the simulated negotiations also showed no framing effects. Again, there are two possible explanations for this, neither of which support the application of prospect theory to litigation.

Firstly, it is possible that, as discussed in section 5.2.3, the introduction of legal fees and court costs unbalances the expected values of settlement and trial enough to overpower any effect of frame. As explained, this is problematic as it is almost impossible to avoid legal fees during litigation, especially with a loser-pays cost allocation system like that used in Australia.

The second possibility is that framing simply does not have a significant effect on the complex and dynamic process of legal decision-making. That is, framing can explain and predict decisions with a simple structure, as exemplified by the Asian disease problem. Thus, the scenario evaluations in Studies 1 and 2, which were heavily based on the Asian disease problem, demonstrated framing effects. Framing has also been used to explain to multi-stage decision making (see for example Kahneman & Tversky, 1984; Loewenstein & Prelec, 1993).

However, there is little evidence to suggest that framing impacts upon multi-attribute decision making (Dyer, Fishburn, Steuer, Wallenius, & Zionts, 1992), such as that encompassed by litigation. For example, even the relatively simple scenarios used in Studies 3 and 4 prompted participants to consider issues such as time, stress, personal satisfaction, moral justification and ongoing business relationships in addition to the obvious financial

concerns.[1]

Like framing, prospect theory is also unable to account for contextual and other external factors which help to define the decision making process (Leven & Levine, 1996), such as the nature of the dispute or the strategy adopted by the other party. As Leven and Levine point out, "prospect theory does not capture many of the contextual and dynamic influences which are fundamental to the phenomena being studied" (1996, p. 273). They go on to add that prospect theory does not make any comment about how the interaction between internal and external variables may influence the decision making process. In combination, these issues lead to the conclusion that prospect theory and framing may not provide a good explanation of litigant behaviour.

6.1.5 Key Findings

One of the most consistent findings of this thesis is that role and frame are independent constructs. That is, the majority of analyses showed no interaction effect between role and frame, and those that were significant were usually explained in terms of differences in subjective probability of winning. This finding has two main implications. Firstly, as discussed in the previous chapter, the distinction between role and frame allows for the possibility that framing manipulations may be used to increase the probability of settlement. The extent to which this may be an effective strategy, however, appears

[1] Evidence of this can be found in the qualitative data collected from Studies 3 and 4.

limited in light of the results presented here, particularly in Studies 3 and 4.

The second implication of distinguishing role and frame is that it suggests different interpretations of previous findings in research on framing and litigation. For example, Rachlinski (1996) analysed the trial outcomes of over 500 civil disputes and claimed to finding evidence of a framing effect. As discussed in Chapter 2 (above at 2.3.2), Rachlinski found that plaintiffs made more 'errors' by going to trial than defendants, but that the cost of those errors was higher for defendants[2]. Rachlinski interpreted this result as evidence of framing effects in real litigation. However, this assumption was based on the belief that frame is defined by role. The experiments conducted in this thesis show that this is not necessarily the case and suggest that this difference is best interpreted as a role effect, not a framing effect. Further research is required to determine what *is* driving this role effect, given that it does not appear to be framing.

One of the aims of this thesis was to consider whether the simulated negotiation paradigm, as used in other fields of negotiation research, is an effective method for investigating litigation. The results of Studies 3 and 4 are promising in that they demonstrate that simulations are able to generate a high level of engagement in participants in a relatively short space of time. This knowledge will aid in designing future experiments.

[2]As explained previously, cases were coded as 'plaintiff error' if the trial outcome was below the defendant's final offer. That is, if the plaintiff would have been better off (financially) if they had accepted the out of court settlement offer, rather than going to trial. Cases were coded as 'defendant error' if the trial outcome was higher than the plaintiff's final offer.

Babcock and Loewenstein (1997) also used simulated negotiations (the 'Texas tort case') to investigate decision making in litigation, with a particular focus on self-serving bias. The material provided to participants in that series of experiments were significantly more extensive (27 pages versus just one in the current studies) and the subsequent negotiation was also longer (30 as opposed to eight minutes). Given the differences between the Texas tort case and the current research, it is difficult to compare relatively levels of engagement. However, one possible point of comparison is the rate of settlement. The rate of settlement in civil disputes is approximately 95 percent, which suggests that real litigants feel a strong incentive to settle. Babcock and Loewenstein (1997) reported settlement rates of between 60 and 85 percent (depending on condition), which is slightly above the negotiations in Studies 3 and 4 (53.4 and 65.5 percent respectively). This could indicate a higher level of engagement in the more extensive experiment, although it is difficult to tell given the significant differences between experiments. An investigation of the factors which are most important in increasing engagement would therefore benefit future research in this field. For example, if settlement can be considered an indicator of engagement, there appears to be a relatively low incremental increase caused by the measures taken by Babcock and Loewenstein (1997) to improve engagement. In addition to more extensive materials and a longer negotiation period, participants in the Texas tort case also received payment contingent upon their outcomes. It would be helpful to know which of these factors are most important for

improving engagement, which would in turn improve the generalisability of experimental work in this area.

6.2 Future Research: Questions & Directions

6.2.1 If not prospect theory then what?

Multi-Attribute Decision-Making Models

The preceding discussion has made it clear that legal decision making is a complex and dynamic process. It is therefore apparent that in order for a theory to accurately describe (and predict) litigant behaviour, it must be able to adequately deal with multi-attribute decision contexts which are continually updating. There is also a need to consider how the interaction of internal and external influences may alter the decision outcome. For example, a litigant who is willing to compromise and co-operate (internal factors) may react negatively to an opponent that adopts an aggressive strategy (external factor).

Unsurprisingly, there are currently no decision making theories that are sufficiently comprehensive to account for complex litigant behaviour. Indeed, as Lai and Sycara (2009) point out, multi-attribute negotiation is still relatively under-studied. They propose a model which is able to take into account some limited factors such as strategy adoption and incomplete information. However, a model that simply *describes* litigant behaviour (while

impressive) only does half of the job. One of the principle aims of this thesis was to investigate a means by which the rate of pre-trial settlement could be increased. For example, it was hoped that a negatively framed litigant could be positively re-framed in order to induce a settlement. Models such as that proposed by Lai and Sycara (2009) provide no such mechanism. Therefore, while further development of such multi-attribute models is required, it is not clear that they will provide much guidance on this issue.

Crisis Bargaining Literature

This thesis has defined litigation as a form of crisis bargaining. As discussed, literature on crisis bargaining has been relatively under-developed. The concept was popular among psychologists in the 1970s and 1980s, but interest appears to have declined during the 1990s. This could in part be due to its perception as providing a more socially focused theory of decision making, rather than having a strong cognitive focus (Bazerman et al., 2000). In recent years, research into crisis bargaining has enjoyed a resurgence, possibly due in part to the current policy climate in international relations and the increasing level of interdependence of national economies due to globalisation.

Unlike the literature on multi-attribute decision making, crisis bargaining research is focused on developing measures to not only describe the process of negotiations, but also to alter the outcome of such disputes. For example, a recent article by Leventoglu and Tarar (2008) examined the effect of private

information on the likelihood of two nations going to war. They consider how third parties (such as international organisations or foreign mediators) could help to facilitate ongoing negotiations, even when facing incomplete information.

Research such as this could have implications for the role of lawyers and mediators during pre-trial negotiations. It therefore seems likely that further development of the crisis bargaining literature could help to resolve many of the issues posed by litigation.

6.2.2 Additional Points of Interest

The exploratory nature of the experimental work presented here means that several findings have arisen which are ancillary to the original aims of this thesis, but which should be discussed. In particular, the findings relating to the subjective probability of winning and reservation price potentially have both experimental and theoretical implications, and are worthy of further research.

Subjective Probability of Winning

One of the most pervasive findings of this thesis is that participant's subjective estimates of their probability of winning consistently deviated from objective estimates. This tendency was also fairly resistant to the experimental manipulations which were implemented to more closely anchor the subjective estimate to the 50 percent level. It is unclear whether this find-

ing is reflective of a real-world tendency or simply an experimental artefact. There is much legal literature to support the proposition that trial is a result of a predictive error on behalf of one or both parties (see for example Cooter & Rubinfield, 1989). This literature is lacking in strong empirical evidence and could benefit from further research. For example, it could be that a litigants' subjective estimate is partly the result of a cognitive bias such as over-confidence (see for example Birke & Fox, 1999), or even perhaps an illusion of control over the trial process. If this were the case, it would be interesting to know whether lawyers are equally susceptible to such bias. If so, this could have implications for legal practice.

Reservation Price and Settlement Windows

The data relating to reservation price and settlement windows generated some interesting and unexpected results. For example, past research has suggested that reservation price and settlement window are good predictors of settlement (see for example Blount-White & Neale, 1994). The data presented here are not consistent with this finding. As reported, both the scenario evaluation studies and the simulated negotiations yielded negatively settlement windows (averaged across individuals), despite a relatively high rate of settlement. Furthermore, participants appeared reasonably willing to violate their reservation prices, as demonstrated by the high level of inconsistencies (ie. individuals who either accepted an offer which was less favourable than their reservation price, or who rejected offers that were more

favourable than their reservation price). As was discussed above at 3.2.3, it therefore seems likely that participants were indicating values more indicative of their aspirations (expectations) than their actual reservation price. Aspiration points have also been considered strong predictors of settlement (see for example Van Poucke & Buelens, 2002). Such an interpretation raises the issue of how to distinguish between reservation and aspiration points before the commencement of a negotiation. That is, a value of $\$x$ may indicate one outcome if it is a reservation price or a different outcome if it is properly interpreted as an aspiration price. Establishing a method for the correct identification of these two values is necessary before either can be used to predict the outcome of negotiations.

6.3 Conclusion

Consistent with the aims, this thesis has demonstrated that framing can, under some circumstances, effect litigant decision making. The experimental work presented here suggests that role and frame are indeed separate constructs that may be independently manipulated. However, the simulated negotiation studies suggest that framing may not be a useful tool for increasing the likelihood of reaching an agreement due to the complex nature of decision making in a legal setting.

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Appendix A

Published Paper

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Judgement and decision making, v. 3(7), pp. 512-527

Appendix B

Study 1 Scenarios

This appendix contains one version of the questionnaire used in Study 1, as presented to participants. This includes the instruction sheet, the four scenarios and the questions regarding moral right. Participants were naive to their role/frame condition, and the headers for each scenario were not present in the original.

ADELAIDE UNIVERSITY AUSTRALIA

The Psychology of Litigation Settlement

Traditionally, legal theory has been based on theories of economic utility but these theories fail to account for the psychological factors which effect human decision making. The aim of the current study is to explore how individuals make decisions in a legal setting. It is hoped that a greater understanding of this process will lead to an increase in out of court settlements, thereby reducing pressure on the court system.

The following questionnaire describes four legal scenarios, each involving a dispute of some kind. For each scenario, you will be asked to evaluate the facts and indicate whether or not, if placed in that situation, you would accept the proposed settlement offer. You will also be asked to indicate, based on the facts, what you believe to be your chances of winning in court.

The aim of this study is to determine how individuals make decisions. For this reason, the scenarios should not be considered as moral dilemmas, as both parties will feel they are correct. There are also no right or wrong answers. Similarly, when making your decision, do not consider legal fees or court costs as this is not the focus of the study.

Each scenario is independent of the others (ie. the facts of each case are in no way related and do not carry on from each other) and your judgement should be based only on the individual merits of each. It is important to read each scenario carefully, and to pay particular attention to your lawyer's advice.

There is no time limit, but normally the questionnaire will take approximately 15-20 minutes to complete. If you are a Psychology I student, you will be asked to provide your student ID number in order to ensure you receive course credit for you participation. Please make sure you sign up for this study through the online booking sheet on experiment central (it doesn't matter what time you choose, as you have already completed the questionnaire). If you do not do this you cannot be credited for your participation. Completion of this questionnaire is worth 30 minutes credit.

Once completed, please return the entire questionnaire (including the cover sheet) to the box in the Psychology Office.

For any further information regarding this study, please feel free to contact either the PhD student or supervisor involved, as below. For any questions concerning the ethics of this request, please contact the convener of the Subcommittee for Human Research in the Department of Psychology, Dr Paul Delfabbro, 8303 5744.

SCENARIO 1 – Positive Plaintiff

You are the plaintiff in a litigation suit, for which the details are as follows. You are the owner of a small gourmet deli. Recently, a local newspaper published a series of articles entitled "*Are these the city's worst employers?"* The articles discussed a number of small businesses in the area and accused them of underpaying their staff and providing sub-standard working conditions. While no names were given, you feel that as a consequence of these articles, customers stayed away and your business suffered $20,000 in lost income.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with the newspaper on your behalf. You are seeking $20,000 in compensation. The newspaper denies the claim on the basis that they did not identify your business, and that the descriptions given in the articles could have referred to any number of businesses.

You have been involved in lengthy legal negotiations with the newspaper and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels you can be definitively identified from the facts given in the articles. Your lawyer has estimated that you have a 50% chance that the judge will rule in your favour and you will receive $20,000 in compensation and a 50% chance that the judge will rule against you and you will receive nothing in compensation.

The night before the trial is due to begin, your lawyer calls to tell you that the newspaper has offered to settle out of court. If you accept this offer, you would receive $10,000 in compensation. This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

- ○ Yes
- ○ No

Your lawyer has advised that you have a 50% chance of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

SCENARIO 2 – Negative Plaintiff

You are the plaintiff in a litigation suit, for which the details are as follows. You are the owner of an investment property 200km from the city. Recently, the bed and breakfast next door to your property built an extra cabin. You have discovered that this extra cabin actually extends onto your property.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with the bed and breakfast on your behalf. Since land value in the area is rising rapidly, you are seeking $40,000 in compensation based on the expected increase in the future value of the land. The bed and breakfast has refused to pay that much, claiming they should only have to pay the current market value of the land, which is half that amount. In this case you would face a loss of $20,000 in future earnings.

You have been involved in lengthy legal negotiations with the bed and breakfast and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on the judge's interpretation of a council by-law which determines how a dispute of this kind is to be resolved. Your lawyer has estimated that you have a 50% chance that the judge will rule in your favour and you will lose nothing and a 50% chance that the judge will rule against you and you will lose $20,000 in future earnings.

The night before the trial is due to begin, your lawyer calls to tell you that the bed and breakfast has offered to settle out of court. If you accept this offer, you would lose $10,000 in future earnings. This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

- ○ Yes
- ○ No

Your lawyer has advised that you have a 50% chance of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

SCENARIO 3 – Negative Defendant

You are the defendant in a litigation suit, for which the details are as follows. You are part-owner of a gym. While your partner was overseas, you installed a vending machine on the premises without consulting him. During this time, the machine generated $40,000 in income.

On his return, your partner claims that as he is an equal partner in the gym, he is owed half of the profits and that he has suffered $20,000 in lost income. You deny this claim on the basis that the vending machine was not part of the gym.

You have been involved in lengthy legal negotiations with your partner and no settlement has been reached. He has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels that the vending machine was part of the joint business enterprise. Your lawyer has estimated that you have a 50% chance that the judge will rule in your favour and you will have to pay nothing and a 50% chance that the judge will rule against you and you will have to pay $20,000 to your partner.

The night before the trial is due to begin, your lawyer calls to tell you that your partner has offered to settle out of court. If you accept this offer, you will have to pay $10,000 to your partner. This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

- ○ Yes
- ○ No

Your lawyer has advised that you have a 50% chance of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

SCENARIO 4 – Positive Defendant

You are the defendant in a litigation suit, for which the details are as follows. Your aunt recently died and, having no children of her own, left the bulk of her estate to you and your cousin. As prescribed by the will, you each received $10,000. You also received an additional portfolio of shares, worth approximately $20,000.

However, your cousin has claimed that the portfolio should have gone to her since your aunt had promised it to her before she died. You deny the claim, since the will left the portfolio to you. You feel that your cousin should receive only the $10,000 left to her.

You have been involved in lengthy legal negotiations with your cousin and no agreement has been reached. She has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge accepts your cousin's evidence of your aunt's promise to give her the portfolio. Your lawyer has estimated that you have a 50% chance that the judge will rule in your favour and you will receive $30,000 from your aunt's estate and a 50% chance that the judge will rule against you and you will receive only $10,000.

The night before the trial is due to begin, your lawyer calls to tell you that your cousin has offered to settle out of court. If you accept this offer, you would receive $20,000 from the estate. This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

- ○ Yes
- ○ No

Your lawyer has advised that you have a 50% chance of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

MORAL RIGHT

Regardless of whether you accepted or rejected each settlement offer, please indicate which party you thought was more morally justified in their claim for each scenario. That is, whether you felt the plaintiff or the defendant 'was in the right', or whether you felt they were about equal. Circle the number that best corresponds to your position.

Scenario number 1:

1	2	3	4	5
Plaintiff definitely in the right	Plaintiff mostly in the right	Plaintiff & Defendant equally right	Defendant mostly in the right	Defendant definitely in the right

Scenario number 2:

1	2	3	4	5
Plaintiff definitely in the right	Plaintiff mostly in the right	Plaintiff & Defendant equally right	Defendant mostly in the right	Defendant definitely in the right

Scenario number 3:

1	2	3	4	5
Plaintiff definitely in the right	Plaintiff mostly in the right	Plaintiff & Defendant equally right	Defendant mostly in the right	Defendant definitely in the right

Scenario number 4

1	2	3	4	5
Plaintiff definitely in the right	Plaintiff mostly in the right	Plaintiff & Defendant equally right	Defendant mostly in the right	Defendant definitely in the right

Age:_____ Gender: **M** **F**

Appendix C

Study 3 Scenarios

This appendix contains the legal scenarios used for the simulated negotiations in Study 3, as presented to participants. Participants were given the instruction sheet, and then asked to read each scenario before commencing the round of negotiations associated with that dispute. Participants were naive to their role/frame condition, and the headers for each scenario were not present in the original.

Negotiation in Civil Disputes – Information Sheet

Traditionally, legal theory has been based on models of economic utility, however these theories fail to account for the psychological factors which effect human decision making. The aim of the current study is to explore how individuals make decisions in a legal setting. It is hoped that a greater understanding of this process will lead to an increase in out of court settlements, thereby reducing pressure on the court system. Specifically, this study aims to explore how plaintiffs and defendants negotiate and evaluate out of court settlements during litigation. In order to do this, you will be asked to participate in three separate negotiations, each with a different opponent. The format of the study is outlined below.

You will be placed into pairs and given a legal scenario to read. Each scenario outlines a real legal dispute between a plaintiff and defendant involving $20,000. You will be asked to imagine how you would feel in such a situation, and to negotiate accordingly. After you have considered the facts of the case for several minutes, you will be asked to negotiate with your opponent by making written offers and counter-offers. In each case, the plaintiff will begin by asking the defendant for the full $20,000. The defendant will then decide whether to accept the offer or make a counter offer, and so the negotiation will proceed. Each round of negotiations will go for five minutes. If your negotiation ends before that time (either due to settlement or impasse), you can simply wait until time runs out. If you do not reach a settlement, your case will proceed to trial, and the actual judgment from this case will determine who wins at trial. As the round progresses, you will be asked to record each offer and counter-offer. To ensure that everyone understands what to do, there will be a practice round first.

In total, there will be three rounds of negotiations using three different legal scenarios. Each negotiation will be done with a different person. At the end of the final round, you will be informed of the actual outcome of each trial and you will receive further information about the specific aims of this study. The entire study will take approximately one hour to complete. Your participation is greatly appreciated and you are free to withdraw at any time throughout the study.

For any further information regarding this study, please feel free to contact either the PhD student or supervisor involved, as below. For any questions concerning the ethics of this request, please contact the convener of the Subcommittee for Human Research in the Department of Psychology, Dr Paul Delfabbro, 8303 5744.

PhD Student: Victoria Gilliland
victoria.gilliland@adelaide.edu.au

Primary Supervisor: John Dunn
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COPYRIGHT POSITIVE PLAINTIFF – 1A

You are the plaintiff in a litigation suit, for which the details are as follows. You are a freelance graphic designer, who specialises in magazine advertisements. Some time ago you submitted an idea for an ad campaign to a small advertising company, AdCo. The company rejected your idea, saying it was not suitable for their clients. However, you recently noticed an advertising campaign published by AdCo that bears a striking resemblance to your submission. After some inquiries you discover that the client paid AdCo $20,000 for artwork which you believe belongs to you.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with AdCo on your behalf. You are seeking $20,000 in compensation. AdCo denies the claim on the basis that the design team who created the campaign were unaware of your submission, and that regardless of this the two ideas vary significantly.

You have been involved in lengthy legal negotiations with the advertising company and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Based on previous cases, your lawyer has advised that the success of your case depends on whether or not the judge feels you have provided appropriate evidence that the original idea was yours alone, and that the design team were aware of your submission. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will receive $20,000 in compensation; if the judge rules against you, you will receive nothing in compensation.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (AdCo). AdCo has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from AdCo in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

COPYRIGHT NEGATIVE PLAINTIFF - 1B

You are the plaintiff in a litigation suit, for which the details are as follows. You are a freelance graphic designer, who specialises in magazine advertisements. Some time ago you submitted an idea for an ad campaign to a small advertising company, AdCo. The company rejected your idea, saying it was not suitable for their clients. However, you recently noticed an advertising campaign published by AdCo that bears a striking resemblance to your submission. After some inquiries you discover that the client paid AdCo $20,000 for artwork which you believe belongs to you.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with AdCo on your behalf. You are seeking $20,000 in lost income. AdCo denies the claim on the basis that the design team who created the campaign were unaware of your submission, and that regardless of this the two ideas vary significantly.

You have been involved in lengthy legal negotiations with the advertising company and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Based on previous cases, your lawyer has advised that the success of your case depends on whether or not the judge feels you have provided appropriate evidence that the original idea was yours alone, and that the design team were aware of your submission. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will lose no income; if the judge rules against you, you will lose $20,000 in income.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (AdCo). AdCo has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from AdCo in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

COPYRIGHT POSITIVE DEFENDANT – 1C

You are the defendant in a litigation suit, for which the details are as follows. You own a small advertising agency, AdCo, which specialises in magazine advertisements. You recently designed an advertising campaign for a client, for which you were paid a commission of $20,000.

However, a local freelance designer has brought an action against you for restitution of lost income. She claims that your campaign is based on a submission she sent you sometime earlier, and that consequently she should receive $20,000 for lost income. You deny the claim on the basis that the design team who created the campaign were unaware of her submission, and that regardless of this the two ideas vary significantly.

You have been involved in lengthy legal negotiations with the designer and no settlement has been reached. The designer has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels you have provided appropriate evidence that the idea for the campaign was original and that the design team were unaware of the earlier submission. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will get to keep the $20,000 commission; if the judge rules against you, you will get to keep none of the commission.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the designer). The designer has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the designer in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

COPYRIGHT NEGATIVE DEFENDANT – 1D

You are the defendant in a litigation suit, for which the details are as follows. You own a small advertising agency, AdCo, which specialises in magazine advertisements. You recently designed an advertising campaign for a client, for which you were paid a commission of $20,000.

However, a local freelance designer has brought an action against you for restitution of lost income. She claims that your campaign is based on a submission she sent you sometime earlier, and that consequently she should receive $20,000 for lost income. You deny the claim on the basis that the design team who created the campaign were unaware of her submission, and that regardless of this the two ideas vary significantly.

You have been involved in lengthy legal negotiations with the designer and no settlement has been reached. The designer has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels you have provided appropriate evidence that the idea for the campaign was original and that the design team were unaware of the earlier submission. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will lose none of the commission; if the judge rules against you, you will lose $20,000 of commission.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the designer). The designer has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the designer in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

RACE HORSE POSITIVE PLAINTIFF – 2A

You are the plaintiff in a litigation suit, for which the details are as follows. You are the owner of a horse stable called the Parsley Stud, which breeds racehorses. You recently purchased a promising yearling for $20,000. However, two weeks after it arrived at your stables, it died of complications arising from a heart condition. You believe the heart condition was pre-existing and that the sale should be void.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with the previous owner on your behalf. You are seeking $20,000 in compensation. The previous owner denies the claim on the basis that he had no prior knowledge of the heart condition.

You have been involved in lengthy legal negotiations with the previous owner and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels the previous owner had a duty to test for congenital disease prior to sale. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will receive $20,000 in compensation; if the judge rules against you, you will receive nothing in compensation.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (the previous owner). The previous owner has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from the previous owner in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

RACE HORSE NEGATIVE PLAINTIFF – 2B

You are the plaintiff in a litigation suit, for which the details are as follows. You are the owner of a horse stable called the Parsley Stud, which breeds racehorses. You recently purchased a promising yearling for $20,000. However, two weeks after it arrived at your stables, it died of complications arising from a heart condition. You believe the heart condition was pre-existing and that the sale should be void.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with the previous owner on your behalf. You are seeking $20,000 in compensation. The previous owner denies the claim on the basis that he had no prior knowledge of the heart condition.

You have been involved in lengthy legal negotiations with the previous owner and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels the previous owner had a duty to test for congenital disease prior to sale. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will lose nothing on the sale; if the judge rules against you, you will lose $20,000 on the sale.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (the previous owner). The previous owner has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from the previous owner in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

RACEHORSE POSITIVE DEFENDANT – 2C

You are the defendant in a litigation suit, for which the details are as follows. You are the owner of a horse stable which breeds racehorses. You recently sold a promising yearling to the Parsley Stud and made a $20,000 profit.

However, two weeks after it left your stables, the horse died of complications arising from a heart condition. The new owner claims that the heart condition was pre-existing and that the sale should be void. She is seeking $20,000 in compensation. You deny the claim on the basis that you had no prior knowledge of the heart condition.

You have been involved in lengthy legal negotiations with the Parsley Stud and no settlement has been reached. The Stud has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels you had a duty to test for congenital disease prior to sale. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will get to keep $20,000 of the sale profits; if the judge rules against you, you will get to keep none of the sale profits.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the Parsley Stud). The Stud has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the Parsley Stud in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

RACEHORSE NEGATIVE DEFENDANT – 2D

You are the defendant in a litigation suit, for which the details are as follows. You are the owner of a horse stable which breeds racehorses. You recently sold a promising yearling to the Parsley Stud and made a $20,000 profit.

However, two weeks after it left your stables, the horse died of complications arising from a heart condition. The new owner claims that the heart condition was pre-existing and that the sale should be void. She is seeking $20,000 in compensation. You deny the claim on the basis that you had no prior knowledge of the heart condition.

You have been involved in lengthy legal negotiations with the Parsley Stud and no settlement has been reached. The Stud has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels you had a duty to test for congenital disease prior to sale. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will lose none of the sale profits; if the judge rules against you, you will lose $20,000 of the sale profits.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the Parsley Stud). The Stud has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the Parsley Stud in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

SOLAR PANELS POSITIVE PLAINTIFF – 3A

You are the plaintiff in a litigation suit, for which the details are as follows. You own a manufacturing business and have recently been investigating the possibility of using solar energy for your warehouse, but are concerned about the cost. You make some enquiries with a company, Aurora, which specialises in the installation of solar panels. They tell you of a new government rebate on solar panels which will save you $20,000. This means that you can afford to 'go green' and you hire Aurora to install the panels. However, when it comes time to claim your rebate, you discover that your business is not eligible for the government incentive. Since it was Aurora who provided the incorrect information, you feel they should have to cover the difference in cost.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with Aurora on your behalf. You are seeking $20,000 in compensation. Aurora denies the claim on the basis that it is your responsibility to investigate your own eligibility for the government rebate.

You have been involved in lengthy legal negotiations with Aurora and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels Aurora made your own responsibilities and liabilities regarding the rebate adequately comprehensible. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will receive $20,000 in compensation; if the judge rules against you, you will receive nothing in compensation.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (Aurora). Aurora has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from the Aurora in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

SOLAR PANELS NEGATIVE PLAINTIFF – 3B

You are the plaintiff in a litigation suit, for which the details are as follows. You own a manufacturing business and have recently been investigating the possibility of using solar energy for your warehouse, but are concerned about the cost. You make some enquiries with a company, Aurora, which specialises in the installation of solar panels. They tell you of a new government rebate on solar panels which will save you $20,000. This means that you can afford to 'go green' and you hire Aurora to install the panels. However, when it comes time to claim your rebate, you discover that your business is not eligible for the government incentive. Since it was Aurora who provided the incorrect information, you feel they should have to cover the difference in cost.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with Aurora on your behalf. You are seeking $20,000 in compensation. Aurora denies the claim on the basis that it is your responsibility to investigate your own eligibility for the government rebate.

You have been involved in lengthy legal negotiations with Aurora and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels Aurora made your own responsibilities and liabilities regarding the rebate adequately comprehensible. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will lose nothing from the rebate; if the judge rules against you, you will lose $20,000 of the rebate.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (Aurora). Aurora has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from the Aurora in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

SOLAR PANELS POSITIVE DEFENDANT – 3C

You are the defendant in a litigation suit, for which the details are as follows. You own a company called Aurora, which specialises in the installation of solar panels. You recently completed a large installation for a manufacturing company, and made a $20,000 profit.

However, the price you quoted the company was based on their eligibility for a government rebate. The company has since discovered they are not eligible for the rebate and believe you are responsible for providing inaccurate information. The company is seeking $20,000 in compensation. You deny the claim on the basis that it was the responsibility of the company to investigate their own eligibility for the government rebate.

You have been involved in lengthy legal negotiations with the manufacturing company and no settlement has been reached. The company has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels you made the company's own responsibilities and liabilities regarding the rebate adequately comprehensible. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will get to keep $20,000 of the installation profits; if the judge rules against you, you will get to keep none of the profits from installation.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the manufacturing company). The company has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the manufacturing company in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

SOLAR PANELS NEGATIVE DEFENDANT – 3D

You are the defendant in a litigation suit, for which the details are as follows. You own a company called Aurora, which specialises in the installation of solar panels. You recently completed a large installation for a manufacturing company, and made a $20,000 profit.

However, the price you quoted the company was based on their eligibility for a government rebate. The company has since discovered they are not eligible for the rebate and believe you are responsible for providing inaccurate information. The company is seeking $20,000 in compensation. You deny the claim on the basis that it was the responsibility of the company to investigate their own eligibility for the government rebate.

You have been involved in lengthy legal negotiations with the manufacturing company and no settlement has been reached. The company has decided to pursue the matter in court and a trial date has now been set. Your lawyer has advised that the success of your case depends on whether or not the judge feels you made the company's own responsibilities and liabilities regarding the rebate adequately comprehensible. The outcomes of these sorts of cases are notoriously difficult to predict, and your lawyer has estimated that you have a 40-60% chance of winning in court. If the judge rules in your favour, you will lose none of the installation profits; if the judge rules against you, you will lose $20,000 of the installation profits.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the manufacturing company). The company has agreed to this, and the negotiations will begin shortly.

Obviously, this scenario may not reflect a situation you personally have faced, however they are based on actual situations that people have found themselves in. It is important to the study that you think about what it would be like to be in this situation, so before proceeding you will have a couple of extra minutes to imagine yourself in this situation. Try to think about how you would want to act if you really had to deal with this scenario.

Before proceeding to the negotiation round, please take a moment to consider the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the manufacturing company in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

Appendix D

Study 4 Framing Interventions

Positive frame for parties reaching settlement:

You have agreed upon a settlement where the defendant will pay the plaintiff $\$x$. Before you sign the court documents which will make this contract legally binding, I need to make sure that you both fully understand the deal you have made.

Plaintiff, this means that you will receive $\$x$ in compensation, less $2500 in legal fees.

Defendant, this means that you will get to keep $\$20{,}000 - x$, less $2500 in legal fees.

Positive frame for parties not reaching settlement:

You have decided to proceed to trial rather than settling this case. Before you do so, I need to make sure that you both fully understand the possible consequences of going to court. You have been informed that the outcome of this case depends entirely upon which judge is allocated to the trial. If you do not negotiate a settlement and instead proceed to trial, each party will be charged a total of $3,500 in legal fees, which will be distributed on a loser-pays basis.

Plaintiff, if the judge rules in your favour, you will receive the full $20,000; if the judge rules against you, you will receive nothing, but have to pay a total of $7,000 in legal fees.

Defendant, if the judge rules in your favour, you will get to keep the $20,000; if the judge rules against you, you will keep nothing, and have to pay a total of $7,000 in legal fees.

Negative frame for parties reaching settlement:

You have agreed upon a settlement where the defendant will pay the plaintiff $\$x$. Before you sign the court documents which will make this contract legally binding, I need to make sure that you both fully understand the deal you have made.

Plaintiff, this means that you will lose $\$20{,}000 - x$, in lost income, minus a further $2,500 in legal fees.
Defendant, this means that you will lose $\$x$, minus a further $2,500 in legal fees.

Negative frame for parties not reaching settlement:

You have decided to proceed to trial rather than settling this case. Before you do so, I need to make sure that you both fully understand the possible consequences of going to court. You have been informed that the outcome of this case depends entirely upon which judge is allocated to the trial. If you do not negotiate a settlement and instead proceed to trial, each party will be charged a total of $3,500 in legal fees, which will be distributed on a loser-pays basis.

Plaintiff, if the judge rules in your favour, you will lose nothing; if the judge rules against you, you will lose $20,000 in lost income and have to pay a total of $7,000 in legal fees.

Defendant, if the judge rules in your favour, you will lose nothing; if the judge rules against you, you will lose the $20,000 commission and have to pay a total of $7,000 in legal fees.

Appendix E

Study 5 Scenarios

This appendix contains one version of the questionnaire used in Study 5. This includes the instruction sheet and the four scenarios. Participants were naive to their role/frame condition, and the headers for each scenario were not present in the original.

Negotiation in Civil Disputes – Information Sheet

Traditionally, legal theory has been based on theories of economic utility but these theories fail to account for the psychological factors which effect human decision making. The aim of the current study is to explore how individuals make decisions in a legal setting. It is hoped that a greater understanding of this process will lead to an increase in out of court settlements, thereby reducing pressure on the court system.

The following questionnaire describes four legal scenarios, each involving a dispute of some kind. For each scenario, you will be asked to evaluate the facts and indicate whether or not, if placed in that situation, you would accept the proposed settlement offer. You will also be asked to indicate, based on the facts, what you believe to be your chances of winning in court and what your final settlement offer would be.

The aim of this study is to determine how individuals make decisions. For this reason, the scenarios should not be considered as moral dilemmas, as both parties will feel they are correct. There are also no right or wrong answers. When you are making your decisions please consider the impact of court costs (as outlined in the scenarios).

Each scenario is independent of the others (ie. the facts of each case are in no way related and do not carry on from each other) and your judgement should be based only on the individual merits of each. The facts of these disputes have been taken from real cases, and the probability of winning in court is a realistic estimate. It is therefore important to read each scenario carefully, and to pay particular attention to your lawyer's advice.

There is no time limit, but normally the questionnaire will take approximately 30 minutes to complete. If you are a Psychology I student, you will be asked to provide your student ID number in order to ensure you receive course credit for you participation. Please make sure you sign up for this study through the online booking sheet on research central (it doesn't matter what time you choose, as you have already completed the questionnaire). If you do not do this you cannot be credited for your participation. Completion of this questionnaire is worth 30 minutes credit.

For any further information regarding this study, please feel free to contact either the PhD student or supervisor involved, as below. For any questions concerning the ethics of this request, please contact the convener of the Subcommittee for Human Research in the Department of Psychology, Dr Paul Delfabbro, 8303 5744.

PhD Student: Victoria Gilliland
victoria.gilliland@adelaide.edu.au

Supervisor: John Dunn
john.c.dunn@adelaide.edu.au

COPYRIGHT POSITIVE PLAINTIFF – 1A

You are the plaintiff in a litigation suit, for which the details are as follows. You are a freelance graphic designer, who specialises in magazine advertisements. Some time ago you submitted an idea for an ad campaign to a small advertising company, AdCo. The company rejected your idea, saying it was not suitable for their clients. However, you recently noticed an advertising campaign published by AdCo that bears a striking resemblance to your submission. After some inquiries you discover that the client paid AdCo $20,000 for artwork which you believe belongs to you.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with AdCo on your behalf. You are seeking $20,000 in compensation. AdCo denies the claim on the basis that the design team who created the campaign were unaware of your submission, and that regardless of this the two ideas vary significantly.

You have been involved in lengthy legal negotiations with the advertising company and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. The discovery process has taken place, and lawyers on both sides have reviewed all the available evidence and entered all relevant legal arguments. The outcome of these sorts of cases is notoriously difficult to predict, and no further legal argument remains which can alter your chance of winning. Instead, your lawyer advises that the success of your case depends on which of two judges is assigned to your trial. Justice Parkes is a strong advocate of intellectual property rights and likely to rule in your favour. Alternatively, Justice Deacon is more concerned by evidentiary issues, and is likely to rule against you. The allocation of judges is a random process and will not be known until the trial commences. You therefore have a 50% chance of winning at trial, based upon which judge is selected. If the judge rules in your favour, you will receive $20,000 in compensation; if the judge rules against you, you will receive nothing in compensation.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (AdCo). Before considering any offers from AdCo, you need to understand the fee structure associated with the litigation process. Should you reach a negotiated settlement, your lawyer will charge you a flat rate of $2,500, which will come out of any money you receive from the defendant. If you do not negotiate a settlement and instead proceed to trial, each party will be charged a total of $3,500 in legal fees, which will be distributed on a loser-pays basis. This means that should the judge rule in your favour, you will receive the full $20,000 in compensation. However, if the judge rules against you, you will receive nothing, but have to pay a total of $7,000 in legal fees.

Before considering the final offer, please take a moment to answer the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from AdCo in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

The night before the trial is due to begin, your lawyer calls to tell you that AdCo has offered to settle out of court. If you accept this offer, you would receive $10,000 in compensation (minus legal costs). This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

YES / NO

RACE HORSE NEGATIVE PLAINTIFF – 2B

You are the plaintiff in a litigation suit, for which the details are as follows. You are the owner of a horse stable called the Parsley Stud, which breeds racehorses. You recently purchased a promising yearling for $20,000. However, two weeks after it arrived at your stables, it died of complications arising from a heart condition. You believe the heart condition was pre-existing and that the sale should be void.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with the previous owner on your behalf. You are seeking $20,000 in compensation. The previous owner denies the claim on the basis that he had no prior knowledge of the heart condition.

You have been involved in lengthy legal negotiations with the previous owner and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. The discovery process has taken place, and lawyers on both sides have reviewed all the available evidence and entered all relevant legal arguments. The outcome of these sorts of cases is notoriously difficult to predict, and no further legal argument remains which can alter your chance of winning. Instead, your lawyer advises that the success of your case depends on which of two judges is assigned to your trial. Justice Payne is a strong advocate of consumer rights and likely to rule in your favour. Alternatively, Justice Deane is more concerned by evidentiary issues, and is likely to rule against you. The allocation of judges is a random process and will not be known until the trial commences. You therefore have a 50% chance of winning at trial, based upon which judge is selected. If the judge rules in your favour, you will lose nothing on the sale; if the judge rules against you, you will lose $20,000 on the sale.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (the previous owner). Before considering any offers from the previous owner, you need to understand the fee structure associated with the litigation process. Should you reach a negotiated settlement, your lawyer will charge you a flat rate of $2,500, which will come out of any money you receive from the defendant. If you do not negotiate a settlement and instead proceed to trial, each party will be charged a total of $3,500 in legal fees, which will be distributed on a loser-pays basis. This means that should the judge rule in your favour, you will lose nothing. However, if the judge rules against you, you will lose $20,000 on the sale and have to pay a total of $7,000 in legal fees.

Before considering the final offer, please take a moment to answer the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from the previous owner in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

The night before the trial is due to begin, your lawyer calls to tell you that the previous owner has offered to settle out of court. If you accept this offer, you would lose $10,000 on the sale (plus legal costs). This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

YES / NO

SOLAR PANELS NEGATIVE DEFENDANT – 3D

You are the defendant in a litigation suit, for which the details are as follows. You own a company called Aurora, which specialises in the installation of solar panels. You recently completed a large installation for a manufacturing company, and made a $20,000 profit.

However, the price you quoted the company was based on their eligibility for a government rebate. The company has since discovered they are not eligible for the rebate and believe you are responsible for providing inaccurate information. The company is seeking $20,000 in compensation. You deny the claim on the basis that it was the responsibility of the company to investigate their own eligibility for the government rebate.

You have been involved in lengthy legal negotiations with the manufacturing company and no settlement has been reached. The company has decided to pursue the matter in court and a trial date has now been set. The discovery process has taken place, and lawyers on both sides have reviewed all the available evidence and entered all relevant legal arguments. The outcome of these sorts of cases is notoriously difficult to predict, and no further legal argument remains which can alter your chance of winning. Instead, your lawyer advises that the success of your case depends on which of two judges is assigned to your trial. Justice Potts is a strong advocate of corporate responsibility and likely to rule against you. Alternatively, Justice Dowd is more concerned by policy issues, and is likely to rule in your favour. The allocation of judges is a random process and will not be known until the trial commences. You therefore have a 50% chance of winning at trial, based upon which judge is selected. If the judge rules in your favour, you will lose none of the installation profits; if the judge rules against you, you will lose $20,000 of the installation profits.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the manufacturing company). Before considering any offers from the company, you need to understand the fee structure associated with the litigation process. Should you reach a negotiated settlement, your lawyer will charge you a flat rate of $2,500, which will be in addition to any money you pay the plaintiff. If you do not negotiate a settlement and instead proceed to trial, each party will be charged a total of $3,500 in legal fees, which will be distributed on a loser-pays basis. This means that should the judge rule in your favour, you will lose nothing. However, if the judge rules against you, you will lose the $20,000 of installation profits and have to pay a total of $7,000 in legal fees.

Before considering the final offer, please take a moment to answer the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the manufacturing company in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

The night before the trial is due to begin, your lawyer calls to tell you that the manufacturing company has offered to settle out of court. If you accept this offer, you would lose $10,000 of the installation profits (plus legal costs). This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

YES / NO

DEFAMATION POSITIVE DEFENDANT – 4C

You are the defendant in a litigation suit, for which the details are as follows. You are the editor of a free, local newspaper. You recently published a series of articles entitled "*Are these the city's worst employers?"* The articles discussed a number of small businesses in the area and accused them of underpaying their staff and providing sub-standard working conditions. While no names were given, as a consequence of these articles, your circulation grew and you gained $20,000 in additional advertising income.

However, the owner of a local gourmet deli has brought an action against you for restitution of lost income. She claims that as a consequence of these articles, customers stayed away from her business and she suffered $20,000 in lost income. She is seeking $20,000 in compensation. You deny the claim on the basis that you did not identify her business and that the descriptions given in the articles could have referred to any number of businesses.

You have been involved in lengthy legal negotiations with the deli owner and no settlement has been reached. She has decided to pursue the matter in court and a trial date has now been set. The discovery process has taken place, and lawyers on both sides have reviewed all the available evidence and entered all relevant legal arguments. The outcome of these sorts of cases is notoriously difficult to predict, and no further legal argument remains which can alter your chance of winning. Instead, your lawyer advises that the success of your case depends on which of two judges is assigned to your trial. Justice Penn is a strong advocate of media responsibility and likely to rule against you. Alternatively, Justice Davies is more concerned about free speech, and is likely to rule in your favour. The allocation of judges is a random process and will not be known until the trial commences. You therefore have a 50% chance of winning at trial, based upon which judge is selected. If the judge rules in your favour, you will get to keep $20,000 of the new income; if the judge rules against you, you will get to keep none of the new income.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the plaintiff (the deli owner). Before considering any offers from the deli owner, you need to understand the fee structure associated with the litigation process. Should you reach a negotiated settlement, your lawyer will charge you a flat rate of $2,500, which will be in addition to any money you pay the plaintiff. If you do not negotiate a settlement and instead proceed to trial, each party will be charged a total of $3,500 in legal fees, which will be distributed on a loser-pays basis. This means that should the judge rule in your favour, you get to keep $20,000 of the new income. However, if the judge rules against you, you will keep none of the new income and have to pay a total of $7,000 in legal fees.

Before considering the final offer, please take a moment to answer the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a defendant, what is the maximum amount of compensation you would pay the deli owner in order to settle out of court? That is, what would be the maximum price (between $0 and $20,000) you would give to avoid going to court?

Maximum offer of $.....

The night before the trial is due to begin, your lawyer calls to tell you that the deli owner has offered to settle out of court. If you accept this offer, you would keep $10,000 of the new income (minus legal costs). This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

YES / NO

Appendix F

Study 6 Scenarios

This appendix contains one version of Scenario 1, as adapted for use in Study 6 (without legal costs). Participants were naive to their role/frame condition, and the headers for each scenario were not present in the original.

COPYRIGHT POSITIVE PLAINTIFF – 1A

You are the plaintiff in a litigation suit, for which the details are as follows. You are a freelance graphic designer, who specialises in magazine advertisements. Some time ago you submitted an idea for an ad campaign to a small advertising company, AdCo. The company rejected your idea, saying it was not suitable for their clients. However, you recently noticed an advertising campaign published by AdCo that bears a striking resemblance to your submission. After some inquiries you discover that the client paid AdCo $20,000 for artwork which you believe belongs to you.

You have been to see your lawyer and he has advised that you have a claim for restitution. Your lawyer has entered into negotiations with AdCo on your behalf. You are seeking $20,000 in compensation. AdCo denies the claim on the basis that the design team who created the campaign were unaware of your submission, and that regardless of this the two ideas vary significantly.

You have been involved in lengthy legal negotiations with the advertising company and no settlement has been reached. You have decided to pursue the matter in court and a trial date has now been set. The discovery process has taken place, and lawyers on both sides have reviewed all the available evidence and entered all relevant legal arguments. The outcome of these sorts of cases is notoriously difficult to predict, and no further legal argument remains which can alter your chance of winning. Instead, your lawyer advises that the success of your case depends on which of two judges is assigned to your trial. Justice Parkes is a strong advocate of intellectual property rights and likely to rule in your favour. Alternatively, Justice Deacon is more concerned by evidentiary issues, and is likely to rule against you. The allocation of judges is a random process and will not be known until the trial commences. You therefore have a 50% chance of winning at trial, based upon which judge is selected. If the judge rules in your favour, you will receive $20,000 in compensation; if the judge rules against you, you will receive nothing in compensation.

Your lawyer has advised that before proceeding to court, you should attempt another round of negotiations with the defendant (AdCo). Before considering the final offer, please take a moment to answer the following questions.

Your lawyer has advised you of your chances of winning in court. Based on the details provided, what chance (as a percentage) do YOU think you have of winning in court?

Approximately _____% chance of winning.

As a plaintiff, what is the minimum amount of compensation you would accept from AdCo in order to settle out of court? That is, what would be the minimum price (between $0 and $20,000) you would want to avoid going to court?

Minimum offer of $.....

The night before the trial is due to begin, your lawyer calls to tell you that AdCo has offered to settle out of court. If you accept this offer, you would receive $10,000 in compensation. This is the final offer before the trial and your decision must be made before the morning.

Will you accept the offer?

YES / NO